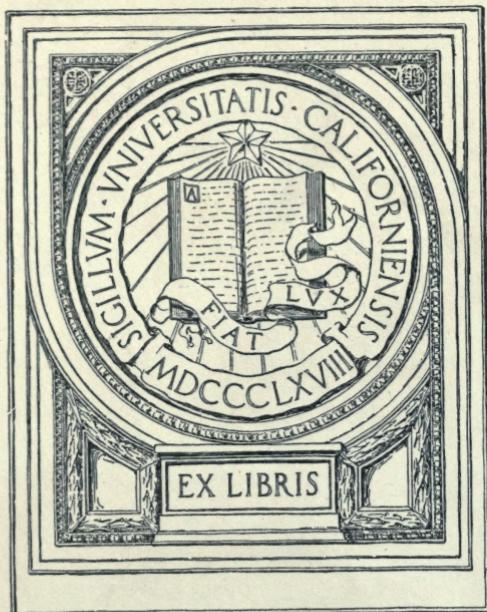


To Chas. J.

WARREN GREGORY · 1864-1927

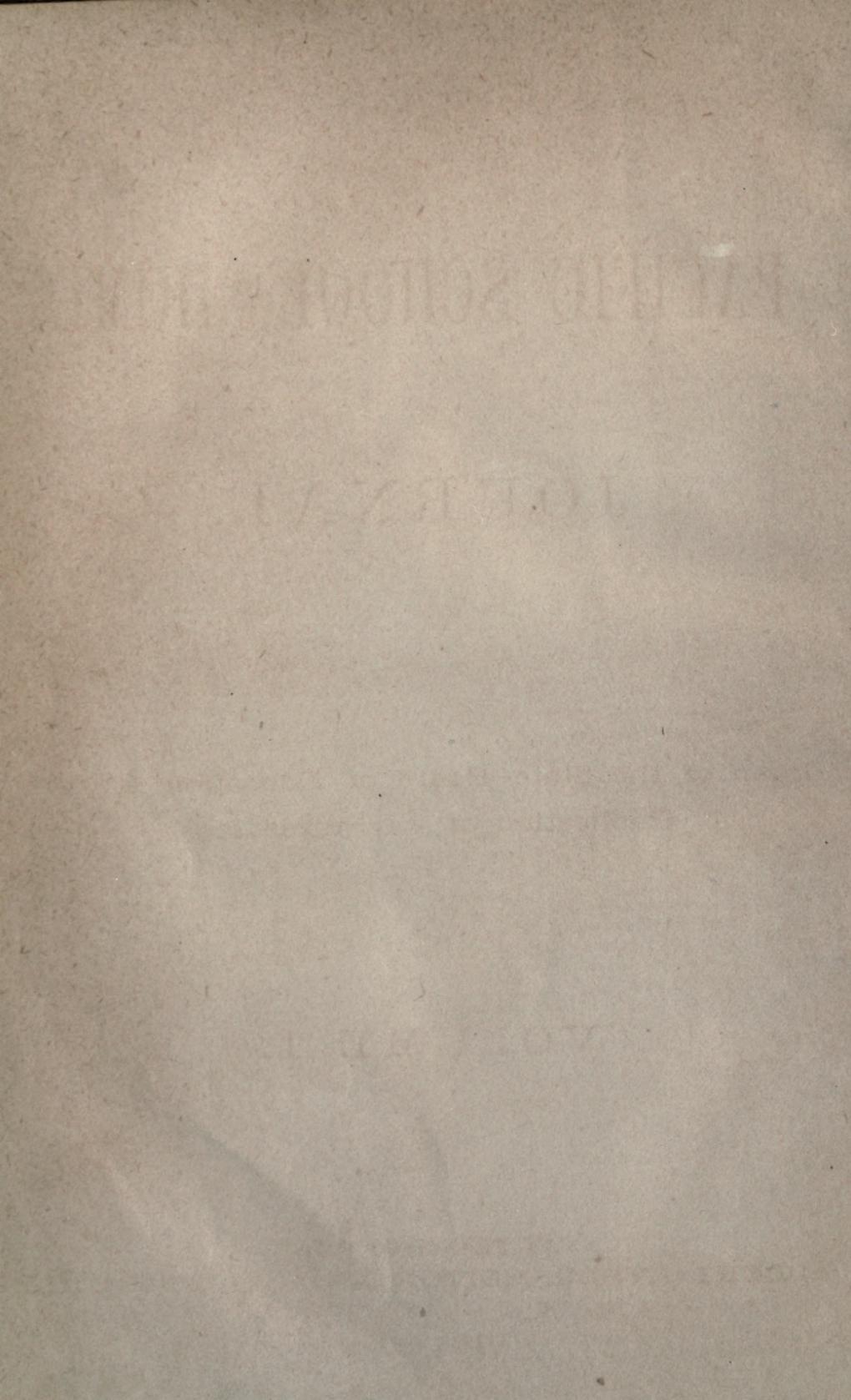


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WARREN GREGORY, a native Californian, received the A.B. degree at the University of California with the Class of 1887. He was graduated from Hastings College of Law in 1890, and for 37 years practiced law in San Francisco. He served as president of the Alumni Association and as a Regent of the University of California from 1919 to 1922. This book was purchased from the income of a memorial fund established by his family.







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PACIFIC SCHOOL & HOME JOURNAL.

Organ of the State Board of Education for the
Publication of its Proceedings.

VOLUME I.

SAN FRANCISCO, CAL.

ALBERT LYSER, EDITOR AND PROPRIETOR.
No. 508 CLAY STREET.

1877-78.

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THE STATE LEARNER EDITION AND PUBLISHING
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THE PACIFIC SCHOOL AND HOME JOURNAL.

EDITED BY

ALBERT LYSER.

SCINTILLATIONS IN MY LIBRARY.

The law of co-operation pervades human life and permeates the universe. Deity demands it, and we are urged by nature, Providence, and grace to become workers together with Him. Man demands it. Thus has he conquered nature, mastered science, multiplied comforts, vanquished despotism, diffused knowledge, and pressed forward his valorous cohorts of philanthropy upon the domains of misery, superstition, and heathendom. Steam, electricity, manufactures, all testify to the power of co-operation. The speaker, the orator, the teacher, all appeal to and are dependent for their sovereignty over mind upon co-operation. The author appeals to it, and *without* it flings his seed thoughts as upon the sea sands' furrows; with it, casts his bread upon the peaceful flood, and comes again rejoicing, bringing his sheaves with him. Let this Library be deemed an intellectual gasometer—our invaluable Librarian the trusty keeper of the works, our Committee caterers of the fuel, and our subscribers the householders, to whose apartments the pipes are laid down and the invisible fluid transmitted. But of what avail this fur-

nace glow, and the conduits carrying their latent streams of fiery light, unless we strike the match and apply the taper of our own personal and studious application? There must be co-operation, else the mechanism and organization prolong their being but to perpetuate "a mockery, a delusion, and a snare."

* * * * *

How this links us with Time past, and tells us of the indissoluble connection existing between the successive generations of the Human Race. For us to-day the students of the past toiled, explored, remembered, and constructed. We are the heirs of all departed generations. Men have produced for us, but through what variety of processes and influences were they enabled to produce and provide for us! How manifold the education and the educational agencies conspiring to this result! Through poverty, through pain, amidst scorn, and despite ingratitude; while their sorrows shadowed their features, and solitude gloomed their hearts; though not an eye glanced sympathy, and not a lip whispered hope, or breathed "well-done!" Schooled by adversity, tutored by friendship, taught by disappointment, chastened by self-sacrifice, they became endowed with maturity of thought, and tenderness of feeling, and

opulence of experience, whereby, "not unto themselves, but unto us," they might "minister of their royal benefactions." From the cold heights of the stellar heavens, and from the fiery depths of their impassioned hearts; from the walks of quiet life, and the broad highways of imperial struggle and advancement; from the mystic realms of mind, and the broad bright regions of material law and order; from the traditions of vagrant tribes, and the storied chronicles graved on stone, or vellum, or papyrus; chanted by Chorus, Scald, or Troubadour; clashed by cymbal, pealed by trump, swelling from the cords of Celtic or Druidic harps! Here Egypt's wisdom, and Persia's lore, and Chaldean science. Here the speculation of Greece, and the legislation of Rome, and chivalry of Norsemen. Homer's immortal melodies, and Demosthenes' musical thunder still murmur or reverberate. Here Plato theorises, and Socrates cross-questions, and Aristotle propounds his science of man, of government, and of nature. Here are preserved the spoils of Sarcenic sage, and Middle-age sophist. Bacon is green with amaranth, and Shakespeare is wet with garlanded dew, and Milton's magnificent mantle waxes not old, and wears not out its sumptuous colors by rush of many generations. * * * * *

Not merely in their own writings do the old masters live, but as certainly have they their being perpetuated in the *influences of their thoughts* upon the literary processes of following ages. Not a singer since Homer but has owned his spell, not a science since the days of Moses in Egypt but feels the potency of those who piled the Pyramids and carved the Sphinx. Not a painter since the great Apelles but has breathed his inspiration. Not a metaphysician since Zeno who has not been guided through the labyrinth of study by his torch. Not an orator in Forum or in Hall since Cicero, who has not acknowledged the spell with which he enthralled his hearers. Nor is it

thus alone that the thinkers of the Past live in the Present. They failed; we shun their perils. They guessed; we seize their clue and thread our maze the more securely. They scented the secret; we have been saved the trouble of aught save the excitement and success of the pursuit. They proved the usefulness of certain methods of discovery and forms of speculation. They have saved us the waste of time, and delay of acquisition, by their exemplary experience. They live in their sons, and are sure of immortality through their seed royal among the children of men. Thus it is that I muse as I dwell within "My Library." Here, in the softly flowing waters of "My Library," I read the story of the streams that have poured their tributaries therein. Look at some majestic river, and begin to trace its travel. Up its banks pursue your voyage; on either hand trickling drops melt into its floods; overhanging branches distil their dews; above, the weeping cloudlet floats its tears; cascades flash with rainbow beauty into the torrent; rivulets glide softly into the great arterial flood; branch rivers stretching on either hand far out into interior realms have collected from countless sources the waters of fountain and rivulet; —down shallows and through gloomy dells, from dark tarn-lakes and ever bubbling-mountain wells, along the course of a million-acred basin land, has the imperial stream obtained its tribute. Snows have melted to feed it, glaciers dissolved to charge its channels, and thunder storms burst to fill its beds; within its sea-like waves, wherein the sun glasses his cloudless form, and whereon argosies float in swan-like grace and beauty, we behold the consummated results of a myriad different agencies, in ceaseless operation, amid the mystic stillness, solitude, and sublimity of earth and heaven, of mountain and of vale.

* * * * * * * * * Then a third idea is suggested. "My

Library" is a representative of the highest form of power—Mind Power. The highest power resides in mind. It is the parent of all power. The mightiest instruments of force are thoughts. Thoughts are mighty in essence and quality, in proportion to their rank in the moral world, in proportion to their fitness to beget the highest moral principles, and to produce the worthiest moral character and conduct. The invisibility, the intangibility of mind power, may with some eclipse its glory, and rob it of its meed of appreciation. We are accustomed to measure might by palpable and material standards, and to deny it to aught not subject to this mode of estimate, that some degree of reflection is necessary ere we apprehend the majesty of force inherent in thought. And yet nature's study ought to teach us another lesson; for the substances most potent in nature are those which defy our sense of sight, as wind; or our sense of touch, as attraction; or our sense of taste, as light; or our sense of hearing, as heat, magnetism, and electricity. The imponderables are the most exalted, in the scale of nature's forces. The birth and growth-power of life,—insect, plant, or beast,—who shall tell its magnitude? For what so resistless, as when winter's womb quickens, spring gives birth to being, and summer suns look down upon hosts called from slumber and stupor into active and exulting bliss by the Life-spirit of the revolving seasons; transforming a sterile hemisphere into laughing verdure, and peopling a vacant and somber atmosphere with tribes of swimming, soaring and rejoicing life. The more a man is advanced in the path of civilization, the more will he seek companionship with and be prepared to render reverence to the "unseen and the eternal." The might of thought may be inferred—as that of wind—from its effects. The history of man is crowded with evidence and illustration. Sometimes we behold its might embodied in conquer-

ing expeditions, again in political revolutions, again in moral reformations, again in social transformations. It is seen in sculpture, it is heard in eloquence, it is witnessed in architecture, it is incarnated in legislation, it is enthroned in state-craft. The sea has felt, the sun owns, and the winds acknowledge it. It has riven rocks, and ransacked forests, and tunnelled mountains and bridged gulfs. It has beaten back the ocean, raced with time, wrestled with gravitation, chained the lightning to its throne, and equipped it for missions of mercy, wisdom and wealth. It has created, but it has conquered, hoary superstition; it has consolidated, but it has overthrown, despotism; it has entered the lists with priestcraft, Oriental and Western, and taken it by the throat and thrown it, and planted its foot upon the monster's neck; nor shall it be withdrawn until "the light Ithuriel lance of truth" shall have pierced it, and hurled its carcass to its own place. It wrung Magna Charta from King John, and chased the crooked-minded Stuart from the British throne; it struck the fetters from a million slaves; secured emancipation for five million Irish Catholics; called forth and clasped to its warm heart the Reform Bill of 1830; reasoned and debated with statesmen until the corn laws and other monopolies melted into nonentity; and cannot, will not, tarry, or weary, or repose, until, wherever ignorance broods, knowledge shall flourish; wherever a wrong reigns, a right shall rule; wherever a slave cringes, a freeman shall rise erect beneath God's generous and impartial Heavens, and from a soil prolific of lies it shall be said from pole to pole: there "*Truth springs out of the earth,*" and there "*righteousness dwelleth.*" Mean in birth, and ignoble in person, and uncouth of speech may be the author and utterer of thought. These but create the deeper contrast, and enoble the triumph of the thinker; for, stript of all that is adventitious and sensuously impos-

ing, thought has but the more developed her native and inherent might, and while the body wastes, the thought life waxes; and while the sensuous oldens, the thought power reaches its youth; and when the material encasement crumbles into native dust, the thought-energy but then begins to reveal the "hidings of its power," and from the grassy grave or the marble cenotaph "goes forth as a bridegroom out of his chamber," and as a strong man to run his race, bathed in the dews of immortality, and clad in the garments of eternal worth; nor time, nor change, nor empires' dissolution, nor death's fell swoop can bind its action or destroy its rule. Of it, as of the Father of Light, it must be chanted, "Thy throne is forever and ever, and of the increase of Thy power there shall be no end." While the earth was resounding with Alexander's exploits, Aristotle, his tutor, was silently achieving the mightier conquest of the human mind. The Macedonian Empire was soon dismembered and extinct; but the mental empire of the philosopher continued vigorous and entire for more than two thousand years, moulding opinions, affecting creeds, and indirectly guiding the popular intellect; nor is it anything like destroyed yet. Nay, here have we preserved for us the mind of departed days. Here have we the fossil thoughts of the different eras and ages of the world's mental and moral history. Here may we read the prominent features of each cycle of the literary and religious past. Here may we learn the degree of growth-power, the quantity and quality of light-power, under which thinkers were developed. Think of some of those masses of mind-power! What evidences of their forces in evoking passion, in calming fear, in rousing to courage! What mastery over imagination by Byron! What spell thrown around a wondering nation by the earliest novels of Scott, while he yet remained "The Great Unknown!" What superb

specimens of the range of human thought, the resources of human imagination, of the royalty of human speech in those volumes of British eloquence, enrolling the names of Fox and Sheridan, of Burke and Chatham! What tales of intellectual prowess the story of Sir Isaac Newton hints; or of educational advancement Arnold's life narrates! What surging of feeling, what tension of thought, what play of fancy, what patience in application, what perseverance in peering, what concentration of faculties, before which darkness trembled into light, and mystery started into simplicity, and withered facts heaved with flushed and purpled life, and chaos put on shapes of comeliness, and Anarchy stooped from her ebon throne but to reveal law reposing in serene and regal ease, as world's revolved in homage, and everthing breathed forth its adoration in melody of praise. The power which drew out the secret from matter, and extorted the principle from mind; which subdued the weakness of flesh, and defied the difficulties of friendless investigation; which, as it passed through the hand, seizing the stylus or the pen, stamped its image upon the calligraphy of the writer in lines of hurried, blurred, and ragged contour; power which damped the author's brow with brain dew, and drew tears from many a reader's eye, and sighs from many a student's heart; power, which shook the Prince beneath his robes, and blanched the cheek of Pontiff amidst his parasites and palace pomps; power, which roused peoples from lethargy into the frenzy of crusading zeal, chiselled the bowlders of Vandal and Gothic ignorance into edifices of freedom, and homes of honesty and honor, and established and matured the grandest Civil Constitution that ever spread its protecting shadow over the races of men —at once the glory of time, the wonder of the world, and the pride of English speaking men! * * * * *

Here we seem as if in a well-seamed

coal mine. Look at that coal mine; black, dead, inert, unsightly as it is, it once lived, it once grew, it once brought forth after its kind—in swamp and river bed, in forest and morass, on moor and fen, in shapes of gracefulness, in forms of infinitely varied stature, structure, color—that dead thing lived. Fern, moss, and grass, stunted and stately, stout and stalwart—of brief existence, of prolonged duration. VEGETATION lies there, untouched, but not less certainly POWER lies there—power higher than mechanical, higher than chemical—even LIFE POWER, to which the former two are inferior or subservient. Power claiming life from the rain drop and from the air vesicle, and from the earth, and from the sunbeam. Power changing death into life, and dullness into motion, and the servile atom into a seed-cell; power to which gravitation bowed, and electricity paid tribute, and heat returned an unfailing response. And through cycles and voiceless ages, this force-agent—Life—ruled. Plant, and stalk, and tree flourished, while the saurian plunged, swam, and crawled, and lizard and tortoise, the fish and the fowl, exhausted their plenitude of capacities. There convulsions upheaved and displaced, and submerged; there torrents rushed and streams o'erflowed their banks. The dynasty of death became a reality, and forest and grove and copse sank o'erwhelmed by earthquake, or cut off by torrent or ocean's inroad. Or gradually decay, and death and subsidence took place; and layers, spread the soft covering over decimated vegetation, forming the soil—the soil whereon new life should flourish, and in turn decay. It is no figure of speech to say, therefore, that not only have we vegetation heaped in coal beds, but we have therein a light or sun-strength slumbering—not one ounce of power wasted, not one pound of leverage unreckonable. There it lies, confined, imprisoned, the sleeping giant of the enchanted castle of the earth. Science has stormed the stronghold and

pealed the blast whose resurrection breath has called from its sepulchral vaults the Titan of the coal-fields; for not only is the power demonstrably existing, but it is power available. It can be recalled to action; it can be restored to veritable use. It lives again—it works right vigorously. It has gained by death. The law of progress is illustrated by its transformation. In vegetation, power had a natural body. In gas, light, and steam, it claims a spiritual body. The grossness first, ethereality second,—nevertheless, unaltered POWER. The engineer Stephenson asked Buckland, "What drives that engine?" The doctor replied, "Of course, steam." "Nay," said George, "it is the light of the sun, first in plants, then in coal, then in heat, now in steam." That bucket of coals can be measured; it can by steam perform the work of twenty men. That stone of hay, and those four pounds of oats, can be measured—they represent power. They will feed a horse for a day, and supply him with nerve and muscle-strength for one day's labor. That ration of meat three pounds, of bread two pounds, can be measured; it represents POWER. Eaten by a Kafir, it passes through his system into LABOR,—not all, perhaps, for, lazy fellow as he is, he may adopt other safety-valves through which to pass off without toil, his meat-power. But the beef and bread represent POWER, and may through a human being, pass into literal STRENGTH. That waterfall can be measured, it represents POWER; falling a given distance it generates a certain heat. Measure the quantity of water, and measure the space through which it falls, and you arrive at the weight it can elevate, and the distance whither it shall raise it. And men are busy to-day developing latent power either into ox-muscle, man-muscle, or engine-muscle. And if the coal-fields, as the treasure-house of sun-power and vegetation-power in years past, countless as the stars, represent the mind-force of de-

parted writers as calmly reclining upon the shelves of My Library, so may we behold, in the development of the latent physical force by the use of coal, in factory, and printing press, and locomotion, an illustration of our relation to the spiritual strength enthralled within the pages of My Library.

A SHORT ESSAY ON MARGARET FULLER.

One of the most brilliant women who ever lived, a shining star in American literature, was Margaret Fuller Ossoli. She was the eldest of a family of daughters, and was carefully educated by her father, who early discovered the genius of his child. She was born in Cambridgeport, Mass., in the year 1810, and was a particularly ill-favored child, a misfortune which clung to her through life, though kindly Nature bountifully compensated in intellectual gifts. At six, she could read Latin, readily and correctly, and, at seven could read Greek; at the age of nine or ten, she was "up to the ears in books," and could read, if she did not understand, Shakespeare, Cervantes, and a host of others.

Whether her father did well or wisely to cram and crowd her young mind in this fashion, may well be doubted; the poor little girl's nerves were unstrung, her appetite lost and her sleep broken; she would often run from her little room, shrieking with terror at the horrible shapes with which her imagination had filled it; and, had not her gentle mother interfered, the frail thread of life would, doubtless, have been soon broken. But, though her tasks were lightened, she was old for her years, and grew to womanhood "without a childhood," as she poetically says; she afterwards deeply regretted that she had not had toys in place of books.

She grew up to be tall, plain, and awkward; an awkwardness increased by excess-

sive near-sightedness, and a disagreeable habit of opening and shutting her eyes; moreover, being always interested in the faces of those whom she met, and, being unable to see readily, she contracted a habit of staring at people, which did not add to her agreeability. Even in her early girlhood, when the tongue is generally tied, and blushes come in place of words, she was an eloquent and ready talker; as she grew older, her conversational powers attracted and charmed all who came within her reach.

Mr. Ralph Waldo Emerson, a man of real genius, declared himself astonished at her powers of conversation; another gentleman pronounced her the most brilliant talker of her age.

"She wore at her girdle the golden key which unlocked all caskets of confidence," says Mr. Channing. Little children with their great-little griefs, disappointed poets, artists, philanthropists, and sad, weary women, came alike to Margaret Fuller for sympathy, and never came in vain. She had that wonderful power, so easily felt, and so little understood, of drawing all hearts to herself; all those who knew her admired and loved her; and this, in spite of many faults and disagreeable ways, which would hardly have been forgiven in another woman, of which her overweening self-conceit was not the least forgivable. Those who see before them an immortal ideal of perfection, which they are eternally striving to reach, and, which they see eternally receding before their stumbling feet, are not they who trumpet their self-praise in this style? "I am acquainted with all the people worth knowing, in America, and I have found no intellect comparable with my own." This self-sufficiency was a fault the more unfortunate, as it doubtless prevented the perfecting of the best fruit of her mind; for, with the exception of her "*Women of the Nineteenth Century*," there is no performance

of Margaret Fuller's which seems worthy of her genius. She was born a half century too soon. "A man's ambition with a woman's heart," she says, "is an evil lot." These words are like a window, through which we see her striving, restless, unsatisfied soul. After her father's death, she taught school, and bore upon her young shoulders, the burden of family cares; for her tender, appreciative love for her mother, bloomed in her gloomy life like a flower in a cavern.

In 1846, when Margaret was thirty-six years of age, she went to Europe;—the goal of all her girlhood's dreams. All? I mistake; of all but one;—the island of Madeira dwelt in her imagination as an "island of the blest." When she was a young girl, she met an English lady, a beautiful woman, "like an angel;" "her presence was to me," she says, "a gate of Paradise."

On one occasion, as Margaret's tears were falling over the fate of little Henry Bertram, in Scott's story of Guy Mannering, this lady approached her, and made her feel, without words, the warmth of her sympathy. When the child's tears were spent, the beautiful lady took from a box, a bunch of golden amaranths. "They came to me from Madeira," she said. Margaret kept the fragrant, precious flowers for seventeen years; the lady soon went away, and she never saw her again, but, for many years after, when ships went sailing past, "their white wings glancing in the sunlight," she was certain that they must be bound for "happy, fortunate Madeira." From England, where she was kindly and cordially welcomed, Margaret went to France; and from France to Italy; one day, while in St. Peter's Cathedral, she lost sight of her friends, and an Italian marquis, Giovanni Angelo Ossoli, proffered his services as an escort; the acquaintance thus made, by chance, ripened into love, and, after a year's sojourn in foreign lands, Margaret Fuller was married.

Those were troubled times for Italy; the mark of the hand of war was seen everywhere; Ossoli belonged to the Republican or Mazzini party, and Margaret's anxiety and trouble were very great; in the midst of it, a little son was born to her, who was christened Angelo. When he was but a few months old, she left him in the care of servants, and hastened to Rome, feeling that her place was at her husband's side.

During the siege of the Eternal City, Margaret was brave and devoted; the Italian soldiers loved her with a proud enthusiasm, and to-day her name is better known and more fondly spoken in Italy than in her native America. Arrogance, self-conceit, and self-glorying pride, seemed to have dropped from her like a useless mantle, displaying in all its beauty, the true womanliness and "divine humility" of her soul. At last the siege was over; Rome capitulated, and Ossoli escaped to Florence, where he was soon joined by his wife and child. After residing in Florence for a few months, they took passage on the ship Elizabeth for the United States. Both husband and wife had presentiments of evil; Ossoli recalled a warning long since addressed to him, "to beware of the sea;" and Margaret said in one of her letters home, that she "hoped the agony would be brief." During the voyage, little Angelo was stricken with small-pox, from which, however, he recovered undisfigured, to the delight of sailors and passengers, for he was a universal favorite. On the 15th of July, after they had been about two months at sea, they saw the lights of the great city to which they were bound; on the morrow Margaret would clasp the hands and see the faces of those whom she loved, and had been parted from for years. On the morrow! A wind sprung up at night, too little care was taken, and towards morning, the ship struck on Fire Beach, off the Jersey coast. It is said that the father, mother, and child, could have been saved,

would they have consented to be parted from each other; but life without each other seemed hardly worth having. The sea and the death which rode on its waves parted them; the unhappy woman saw her child and then her husband swallowed up before her eyes, by the cruel, devouring water; and after twelve hours of agony whose depth we can hardly dare to guess, a great wave, more merciful than the rest, swept her away. Let us hope that the meeting at the gates of Heaven was as happy, as the parting at the gates of Death was terrible.

AN ATTEMPT TO CONSTRUCT A SYSTEM OF ENGLISH GRAMMAR.

PART I.

ETYMOLOGY.

The grammar of a language ought to be a clear and concise compilation of the laws that actually govern in its correct use. The English language has been called a grammarless tongue. That it is not a grammarless tongue is apparent from the fact that there are laws that determine its correct use. Unfortunately for students of our mother tongue those laws have received but slight attention from the majority of English Grammar-makers. For six centuries the English language, like the men who have spoken it, has been making its own laws, while the grammatists, like the tyrants that they are, and always were, have been engaged in a fruitless attempt to force upon it laws alien to its spirit and antagonistic to the law of its development. The writers of English grammar have inflicted unnumbered woes upon numerous generations of hapless school children, but, happily for us, have had but little influence upon the growth and development of the language itself. In the attempt I am now about to make, I shall endeavor to cut

loose from all ideas derived from writers on English grammar. I shall try to construct a system of English grammar free from technical terms and as plain and concise as possible. I appreciate the gravity and the difficulty of the undertaking, and shall only ask my critics to bear in mind how much more difficult it is to *do* than to criticise what is *done*.

Our first step is to properly classify the words of our language.

All the words in our language may be divided into four classes:

I. NAME WORDS; as, San Francisco, man, he.

II. ASSERTING WORDS; as, go, is, discover.

III. MODIFYING WORDS; as, good, quickly.

IV. CONNECTING WORDS; as, or, of, in, and.

Name words may be subdivided into three classes:

1. Individual names; as, Mary, Boston, Mars.

2. Class names; as, boy, tree, book.

3. Indefinite names; as, he, she, it.

NOTE.—Individual names are the only real names, but class names and indefinite names sufficiently resemble name words to justify us in classifying them with name words.

Asserting words may be subdivided into two classes:

1. Complete; as, walk, fly, sleep.

2. Incomplete; as, discover, make.

NOTE.—A complete asserting word makes a complete assertion by itself. An incomplete asserting word requires some other word or words to complete the assertion that it makes.

Modifying words may be subdivided into two classes:

1. Primary; as, good, wise, just.

2. Secondary; as, now, quickly, brightly.

Primary modifiers modify name words. Secondary modifiers modify asserting words or modifying words.

NOTE.—Secondary modifiers are really modifiers of modifiers. Asserting words are also modifiers, but their asserting function is so important that we are justified in placing them in a separate class by themselves.

Connecting words may be subdivided into two classes:

1. Pure; as, or, but, and.

2. Relational; as, in, out, over.

Pure connectives merely connect, and

generally connect statements, or abbreviated forms of expression that may be expanded into statements. Relational connectives connect terms and suggest the relation that exists between the terms connected.

Some words possess the properties and perform the functions of two classes of words at the same time.

There are two classes of such words:

1. Those that are names and at the same time connect; as, who, which.

2. Those that modify and connect at the same time; as, when, while, where.

Note.—The classifications given above embrace all the words of our language with which grammar has anything to do. Interjections are not parts of speech. Horne Tooke says: "The brutal and inarticulate interjection, which is no part of speech, but the miserable refuge of the speechless, has been classed by grammarians as a part of speech."

Having thus classified all the words of our language, we next proceed to point out the changes in form which some words undergo to indicate the relations they sustain to the words or to mark changes in their use or meaning.

Individual and Class names undergo but one change of form, viz: to distinguish more than one from one.

This is done:

1. By adding s; as, boy, boys.

2. By adding es; as, box, boxes.

3. By changing a letter in the stem; as, man, men.

4. By adding en; as, ox, oxen.

5. By changing final f to v and adding es; as, calf, calves.

Most Indefinite names undergo two changes of form:

1. To distinguish more than one form one; as:

One.	More than one.
I	we
thou	ye
he	they
she	they
it	they

2. To distinguish the recipient form from the agent form; as:

Agent Form. **Recipient Form.**

I	me
thou	thee
he	him
she	her
we	us
they	them
who	whom

Asserting words undergo two changes of form:

1. To distinguish past time from present time; as:

Present Time Form. Past Time Form.

walk	walked
is	was
stand	stood
do	did

2. In the Present Time Form to distinguish more than one from one; as:

One.

a boy walks
he does

More than one.

boys walk
they do

Note.—It will be noticed that where the name word takes on the termination s or es the asserting word drops it.

The Past time form is generally formed from the Present time form by adding d or ed; but there are about two hundred asserting words that form the past time form irregularly. These can be readily learned by the pupil who is taught to observe the forms he meets with in studying his language.

Having now pointed out the various changes in form which the different classes of words undergo, we next proceed to show how words of one class are derived from, or formed out of those of another class.

From every individual and class name word, except those that end in s added to denote more than one, is formed a modifying word by adding an apostrophe and s ('s); as, from the name word girl, the modifying word girl's.

Some modifying words change their forms to indicate a difference in the degree or intensity of the idea or quality expressed by them. A higher degree than ordinary is indicated by adding r or er; the highest degree by adding st or est; as, high, higher, highest; wise, wiser, wisest.

The modifying words this and that always modify words denoting one. When the name words which they modify indicate more than one this must be changed to these, and that to those, as this boy, these boys; that man, those men.

From every individual and class name

word ending in *s* added to denote more than one, is formed a modifying word by adding an apostrophe ('') only; as, from the name word *girls* the modifying word *girls'*.

From the recipient form of every indefinite name word is formed a modifying word; as, from *me, my or mine*; from *him, his*, from *her, her or hers*; from *us, our or ours*; from *them, their or theirs*; from *it, its*.

From the connecting name word *whom* we derive the modifying connecting word *whose*.

From every asserting word is derived a name word by prefixing the participle *to*; as, from *lie*, to *lie*, e. g. *To lie is base*.

NOTE.—This name word is sometimes made by adding *ing* instead of prefixing *to*; e. g. *lying is base*.

From every asserting word are derived two modifying words—one always ending in *ing*, and suggesting an idea of incompleteness—the other suggesting an idea of completeness, and in most asserting words ending in *d* or *ed*; as, from *love, loving and loved*, from *do, doing, and done*.

A few Latin, Greek, Italian, and French words in our language have carried with them into our language the inflections of the language from which they are taken.

Latin name words that end in *a* when indicating one change *a* to *æ* to denote more than one.

us to i when the word is masculine in Latin.
us to era " " " neuter " "
um to a.

Greek name words that end in *is* when indicating one change *is* to *es*; to denote more than one *on to a*.

The French name word *beau* adds *x* to denote more than one.

Italian name words that end in *e* or *o* when indicating one change *e* or *o* to *i* to denote more than one; as, *dilettante dilettanti*.

virtuoso *virtuosi*

Some English name words of Latin origin form the name word of the female from that of the male by adding an ending

or by modifying the last syllable of the name word of the male; as:

hero	lion	poet	Executor	heroine	lioness	poetess	executrix
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The foregoing pages contain, I think, all that is necessary for English speaking students to learn of English etymology. I have left out a good deal that is to be found in all our grammars. I have done so purposely, because I do not think the matters so omitted ought to have any place in an English grammar. I have not attempted to write a grammar for school use. Had that been my object, much fuller explanation and more copious illustration would have been necessary. My object has been to outline a plan or system of English grammar derived from an experimental study of the language itself. In attempting to attain this object I have studiously kept out of sight all rules and laws of languages whose grammar is essentially different from that of our English tongue. If my imperfect attempt shall lead other minds to investigate the subject of grammatical reform, at present so much needed, I shall be content. In a future paper I shall attempt to construct a system of English syntax on the same plan.

HOW I BECAME A SCHOOL-MASTER.

Twenty years ago this very month, moved by the migratory instinct that seems to be hereditary in so many Yankee boys, impelling them to take flight in search of warmer climes and richer feeding-grounds, I sailed out of Boston harbor bound for California, "round the Horn."

My pocket-book was not plethoric with money, but carefully stowed away in its ample folds there were three certificates, every one of which bore the most positive evidence as to my good moral character, and certified to my "ability and fitness to

teach a common school for the term of one year." One of these, like its holder, had its birth in the Old Granite State.

It bore the signature of a "*Destrict School Trustee*," dear old Deacon Brown, who examined me in the vowel sounds, and the consonant sounds; asked me to pronounce correctly *g-e-w-g-a-w*, and, by way of a clincher, required me to define the four parts of English Grammar according to Lindley Murray, to-wit: Orthography, Etymology, Syntax, and Prosody

The other two certificates were dated in the town of *Timbuctoo*, in the old Bay State, almost in the shadow of Bunker Hill. I was examined in the dingy office of a cob-webbed old lawyer, who was quite as scientific in his style of doing things, as was dear old Deacon Brown.

It is enough to say that every one of these examinations was as great a farce as it would be for Vincent Colyer to examine an Apache Indian in mental and moral philosophy and theology; or rather, as absurd as it would be for a green-grocer to examine John Stuart Mill in political economy.

I would not rake up old events that happened so near the cradle of the common school system, except that on returning, nearly a quarter of a century later, I find that good old way of examining teachers still going on in my native State, and in some other States that I do not now care to mention.

When I reached California, I minded until I found myself dead broke; worked as a day-laborer on a ranch; sought for permanent employment, saving profession of blacking boots; end of the year, looked sadly cates, and, as a last desperate round" for a school.

I heard of a school, but rates were not current in the flattering letters of Pro-

taught me how to teach, availed me nothing. I had to be "examined" before I could be patented to be "fit to teach a common school in the State of California, for one year," and a miserable little school of half-Spanish children at that.

The school trustee, a Yankee minister, a man of huge body and enormous pomposity, did his duty with an awful dignity, which nobody but a little-minded man, in a petty little office, can ever aspire to. It was the same old rigmarole of "readin' 'ritin' and 'rithmetic," with never a question to test education, culture, or power to teach.

After a half-day's examination, he gave me a certificate, and the school to somebody else.

Then I went to San Francisco. There was a vacancy in the school department. The old examination-mill was still kept running under Yankee management. Fifteen of us, all in a row, like good little boys in school, were questioned "once round" in arithmetic, "once round" in grammar, "once round" in geography, "once round" in spelling, by the Superintendent and the Mayor--the former a Vermont Yankee, and the latter like unto ' except he hailed from a city nigh Boston, where they gibbeted witches instead of teachers.

I was told I ranked first in the and of course somebody else, w "influence with ' ' and " got th The su

YOSEMITE IN FLOOD.

Many a joyful stream is born in the Sierras, but not one can sing like the Merced. In childhood, high on the mountains, her silver thread is a moving melody; of sublime Yosemite she is the voice; the blooming *chaparral* or the flowery plains owe to her fullness their plant-wealth of purple and gold, and to the loose dipping willows and broad green oaks she is bounteous in blessing. I think she is the most absorbing and readable of rivers. I have lived with her for three years, sharing all her life and fortunes, dreaming that I appreciated her; but I have never so much as imagined the sublimity, the majesty of her music, until seeing and listening at every pore I stood in her temple to-day.

December brought to Yosemite, first of all, a cluster of ripe, golden days and silvery nights—a radiant company of the sweetest winter children of the sun. The blue sky had Sabbath, and slept in its high dome, and down in its mansions of *canon* and cave, crystals grew in the calm nights, and fringed the rocks like mosses. The vember torrents were soothed, and set tranquility beamed from every feature sky and sky.

the afternoon of December 16th, in immense crimson cloud grew up airy grandeur above Cathedral Rocks. ibled a fungus, with a bulging base stalk, and

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bird's-eye maple. Late in the night some rain fell, which changed to snow, and, in the morning, about ten inches remained unmelted on the meadows, and was still falling—a fine, cordial snow-storm; but the end was not yet.

On the night of the 18th rain fell in torrents, but, as it had a temperature of 34° Fahrenheit, the snow-line was only a few feet above the meadows, and there was no promise of flood; yet sometime after eleven o'clock the temperature was suddenly raised by a south wind to 42°, carrying the snow-line to the top of the wall and far beyond —out on the upper basins, perhaps, to the very summit of the range—and the morning saw Yosemite in the glory of flood. Torrents of warm rain were washing the valley walls, and melting the upper snows of the surrounding mountains; and the liberated waters held jubilee. On both sides the Sentinel, foamed a splendid cascade, and across the valley by the Three Brothers, down through the pine grove, I could see fragments of an unaccountable outgush of snowy cascades. I ran for the open meadow, that I might hear and see the whole glowing circumference at once, but the tinkling brook was an unfordable torrent, bearing down snow and bowlders like a giant. Farther up on the *debris* I discovered a place where the stream was broken up into three or four strips among the bowlders, where I crossed easily, and ran for the meadows. But, on emerging from the bordering bushes, I found them filled with green lakes, edged and islanded

" floating snow. I had to keep along 'bris as far Hutchings', where I the river, and reached a wadable the midst of the most glorious of water-falls ever laid bare . Between Black's and Hutch- re ten snowy, majestic, loud- s and falls; in the neighbor- er Point, six; from Three semite Falls, nine; between

Yosemite and Arch Falls, ten; between Washington Column and Mount Watkins, ten; on the slopes of South Dome, facing Mirror Lake, eight; on the shoulder of South Dome, facing the main valley, three. Fifty-six new-born falls occupying this upper end of the valley; besides a countless host of silvery-netted arteries gleaming everywhere! I did not go down to the Ribbon or Pohono; but in the whole valley there must have been upward of a hundred. As if inspired with some great water purpose, cascades and falls had come thronging, in Yosemite costume, from every grove and *canon* of the mountains; and be it remembered, that these cascades and falls were not dainty, small, momentary gushes, but broad, noble-mannered water creations; sublime in all their attributes, and well worthy Yosemite rocks, shooting in arrowy foam from a height of near three thousand feet; the very smallest of which could be heard several miles away: a perfect storm of waterfalls throbbing out their lives in one stupendous song. I have criticised Hill's painting for having two large falls between the Sentinel and Cathedral Rocks; now I would not be unbelieving against fifty. From my first stand-point on the meadow toward Lamon's only one fall is usually seen; now there are forty. A most glorious convention this of vocal waters—not remote and dim, as only half present, but with forms and voices wholly seen and felt, each throbbing out rays of beauty warm and palpable as those of the sun.

All who have seen Yosemite in summer will remember the comet forms of upper Yosemite Falls, and the laces of Nevada. In these waters of the jubilee, the lace tissue predominates; but there is also a plentiful mingling of arrowy comets. A cascade back of Black's is composed of two white shafts set against the dark wall about thirty feet apart, and filled in with chained and beaded gauze of splendid pattern, among the living meshes of which the dark, pur-

ple granite is dimly seen. A little above Glacier Point there is a half-woven, half-divided web of cascades, with warp and woof so similar in song and in gestures, that they appear as one existence: living and rejoicing by the pulsings of one heart. The row of cascades between Washington Column and the Arch Falls are so closely side by side that they form an almost continuous sheet; and those about Indian Canon and the Brothers are not a whit less noble. Tissiack is crowned with surpassing glory. Her sculptured walls and bosses and her great dome are nobly adorned with clouds and waters, and her thirteen cascades give her voice of song.

The upper Yosemite is queen of all these mountain waters; nevertheless, in the first half-day of jubilee, her voice was scarce heard. Ever since the coming of the first November storms, Yosemite has flowed with a constant stream, although far from being equal to the high water in May and June. About three o'clock this afternoon I heard a sudden crash and booming, mixed with heavy gaspings and rocky, angular explosions, and I ran out, sure that a rock-avalanche had started near the top of the wall, and hoping to see some of the huge blocks journeying down; but I quickly discovered that these craggy, sharp-angled notes belonged to the flood-wave of the upper fall. The great wave, gathered from many a glacier-*canon* of the Hoffman spurs, had just arrived, sweeping logs and ice before it, and, plunging over the tremendous verge, was blended with the storm-notes of crowning grandeur.

During the whole two days of storm no idle, unconscious water appeared, and the clouds, and winds, and rocks were inspired with corresponding activity and life. Clouds rose hastily, upon some errand, to the very summit of the walls, with a single effort, and as suddenly returned; or, sweeping horizontally, near the ground, draggled long-bent streamers through the pine-tops;

while others traveled up and down Indian Canon, and over-topped the highest brows, then suddenly drooped and condensed, or, thinning to gauze veiled half the valley, leaving here and there a summit looming up alone. These clouds, and the crooked cascades, raised the valley-rocks to double their usual height, for the eye, mounting from cloud to cloud, and from angle to angle upon the cascades, obtained a truer measure of their sublime stature.

The warm wind still poured in from the south, melting the snows far out on the highest mountains. Thermometer at noon, 45°. The smaller streams of the valley edge are waning, by the slackening of the rain; but the far-reaching streams, coming in by the Tenaya, Nevada, and Illilouette canons, are still increasing. The Merced, in some places, overflows its banks, having risen at once from a shallow, prattling, ill-proportioned stream, to a deep, majestic river. The upper Yosemite is in full, gushing, throbbing glory of prime; still louder spring its shafts of song; still deeper grows the intense whiteness of its mingled meteors; fearlessly blow the winds among its dark, shadowy chambers, now softly bearing away the outside sprays, now swaying and bending the whole massive column. So sings Yosemite, with her hundred fellow-falls, to the trembling bushes, and solemn-waving pines, and winds, and clouds, and living, pulsing rocks—one stupendous unit of mountain power—one harmonious storm of mountain love.

On the third day the storm ceased. Frost killed the new falls; the clouds are withered and empty; a score of light is drawn across the sky, and our chapter of flood is finished. Visions like these do not remain with us as mere maps and pictures—flat shadows cast upon our minds, to brighten, at times, when touched by association or will, and fade again from our view, like landscapes in the gloaming. They saturate every fiber of the body and soul, dwelling in us and with us, like holy spirits, through all of our after-deaths and after-lives.

PHYSICAL TRAINING.

Intellectual training being the main object of the public schools, it is not surprising that the body has too often been remorselessly sacrificed to the brain.

The neglect of physical culture having produced a long train of evils, too serious to be longer evaded by the most stubborn conservatives, the result is, that systematic physical training is beginning to be recognized as a duty in the public schools of the United States.

In some schools, gymnastic and calisthenic exercises form a part of the daily drill of pupils, quite as regularly as the mental exercises in arithmetic and grammar. In some colleges, muscular training in the gymnasium is insisted on quite as strenuously as a knowledge of the classics.

They are using their gymnasiums to build up stout bodies, as well as strong minds. A four years' war taught the nation to place a higher value on physical manhood. In many public schools, the elements of military drill have been introduced, and, under the stimulus of the war spirit, successfully carried into effect. But the first great requisites for good soldiers, before which all others sink into insignificance, are sound health, activity, and power of endurance.

The rawest recruits can be taught to handle a musket in a few weeks, but muscles of iron and sinews of steel cannot be fastened upon men like knapsacks. The Greek and Roman veterans were trained from boyhood, by gymnastic exercises, and athletic games and sports. To lay a solid foundation for our own military strength as a nation, we must begin with the three millions of boys in our public schools; and while we breathe into their hearts the spirit of patriotism, we must train them to a muscular power which will give us fit soldiers to fight and win the battles of the republic. Ten years of boy-life in schools where regular gymnastic drill is followed up, and where a fondness for all athletic games and sports

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is cultivated, will make a good foundation for military drill.

Physical training is important as an efficient aid to mental culture. It comes into school as an amusement, a relaxation from the hard work of mental application. School amusements are a necessity of childhood. One of the greatest defects of our schools is their failure to recognize the laws of animal life.

In Germany and Prussia, the children are trained in the schools to gymnastic and athletic exercises; and the result is a national trait of fondness for out-of-door life. English schools are noted for rough-and-tumble games foot-ball, cricket, leaping, running, wrestling, rowing, boxing, and fencing. Pluck is a national trait of English schoolboys, and of English men.

Amusement, in all nations and among all people, in some form, comes in to lighten the burden of toil. Labor is a means, not an end; and the true end of life, usefulness and happiness, lies in the golden mean, the alternation of labor, rest, and amusement.

When the only standing recreation of the American people is business, their lighter amusements, billiards and the ball-room, we have little reason to expect great fondness for sports in schools. This distaste for fun and frolic comes down to us as a natural inheritance. The grave old Puritans, who settled New England, and laid in granite the foundation of the nation, had too much hard work to do in clearing farms and hunting Indians, to think much of amusements. They brought with them, too, something of the old Roundhead antipathy to May-poles, dancing, and theatres.

Whatever may be the reason, it is certain that the Americans, as a people, have little fondness for athletic games and out-of-door sports, without which it is hard to keep the muscular system in good condition.

The ancient Greeks carried to the highest perfection the cultivation of the intellect and training of the body. Their

Olympic games, their athletic exercises, their school discipline, their military drill, secured the highest possible degree of physical perfection. Their poets, orators, philosophers, painters, sculptors, and historians, were good fighters. Alcibiades, the sybarite, the fop, the reveler, could live on black broth, and rough it in the camp with the hardiest of the common soldiers.

Socrates was a soldier as well as a philosopher, and would have been less respected had he wanted the attributes common to all citizen soldiers---strength, courage, and endurance.

When, in Greece, a luxurious civilization corrupted the tastes of the citizens, and reduced them to effeminacy, the rude barbarian claimed the land, and won it.

Their severe gymnastic training, it is true, had for its primary object the perfection of military discipline; but it also produced clear heads, strong minds, and the perfect forms which still live in marble.

Its influence was felt in literature, to which it gave a healthy cast. It gave to the nation its immortal sculptors and painters.

It is in the power of the public schools to educate the nation to a more healthful taste for simple amusements, and to raise the standard of manly strength and womanly beauty.

But apart from this, the highest degree of mental culture cannot be attained in violation of the laws of physical life. Childhood is the season of growth, of animal development. It is a mistaken notion that children are born into the world for the purpose of going to school to learn to read and write. Playfulness, is with them, as much an instinct as with kittens. Even in the long, dark winters of the arctic zone, where nature in her savage forms almost freezes out the life of man, Dr. Kane found the stunted little Esquimaux boys playing their games of ball on the snow-banks. Let the children in school have amuse-

ments in the form of healthful, muscular exercises. It is absolutely painful to think how most of our primary schools sin against the laws of nature; how they cramp the bodies, and repress childish emotions and impulses.

Education is the harmonious development of all the faculties of the human mind, and the training of the human body to its greatest strength and highest beauty. Why, then, in our public schools, should not physical training be considered, as well as mental development?

It is evident to all who are in the least familiar with the daily routine of our schools, that the muscular natures of the children are as little regarded as if they were made of gutta percha. Now, I do not suppose that many children are killed outright by the high pressure of mental training. Occasionally some nervous boy, brilliant and ambitious, his vitality all running to brain instead of body, drops out of school into his grave, and his death is attributed to Providence instead of mathematics. But thousands of boys leave school, thin, pale, and weak, or bungling, clumsy, and awkward, when they might as well have left it strong, active, and graceful.

It is not so much the positive harm which the schools inflict that we complain, but their neglect to accomplish positive good. It might be hard to prove, in court that delicate girls, of fine nervous organizations, have been killed outright by long lessons, over-stimulated ambition, late study hours, and mathematical puzzles; yet all teachers very well know that brain fevers have taken off many promising young girls, and that many more leave school with diplomas and ruined constitutions. All the girls in public schools have neither crooked spines, round shoulders, sunken chests, nor pale faces; but how much more perfect might be their physical development, did their health receive half the attention devoted to music, drawing, and

mathematics. Can any mental culture be of greater importance than the health of those who are to become the mothers of the next generation of men? Few girls who are educated in the public schools escape the universal law of labor. Most of them, when they enter homes of their own at an early age, will need strength as well as accomplishments. Many of them must do their own housework, in addition to the care of children; and is the question of physical strength of no consequence to them? Is it of little consequence to the laboring man, with a family to support, whether his wife be strong or feeble, well or sick?

The strong boys, in the long-run, come out ahead. When an ox is let into a pasture full of cattle, there is a trial of horns, and the strongest takes the lead. So with the boys of the public school. The strong, the energetic, the active, are the real kings of school, whether they are at the head or foot of the arithmetic class. Give the boy, then, the exercise his nature craves, and which will make him a live boy and manly man. If he leaves school with a fondness for athletic amusements, he has one of the surest safeguards against expensive and ruinous dissipation.

A judicious union of social, mental and physical culture, will make our public schools practically adapted to the wants of the people. If parents, through ignorance, neglect the proper training of their children, let the public school take charge of them. Amusements form a part of education, and much excellent gymnastic and calisthenic training may be connected with games, or made delightful by music.

But some will say, leave children to follow their own inclination in plays and sports; it is not natural for boys to climb the ropes and ladders of a gymnasium, to swing clubs, lift weights, revolve on bars; nor is it desirable that young ladies use wands, swing dumb bells, and romp in the

play-ground. Any attempt at systematic and repeated drill will prove irksome, and therefore useless.

Then, why not leave the mind to its natural, untrained action? Why submit the brain to regular training? Children's brains are as active as their bodies; why not leave both alike to the ill-regulated laws of impulse and feeling? In mental culture we recognize the great law of nature, that no perfection is attained without repeated and systematic effort. Mental gymnastics of the severest kind are rigidly practiced during at least ten years of early life. Strength, readiness, and quickness are the result. Leave the mind to its own aimless action, and its strength all runs to waste.

The same law applies to the muscular system; yet we leave the boy in school, day after day, year after year, cramped over his desk, his muscles weak and relaxed, and his nervous energy, diverted from his growth, to be poured on an already over-worked brain. If he have unusual stamina, he comes out in tolerable health, but clumsy and bungling; if of a nervous temperament, he leaves school precociously sharp and quick, but thin, pale and weak. Take a class of boys and subject them, from the age of six years to fifteen, to a careful and judicious daily exercise of an hour in such gymnastics as are best adapted to the growing body, and will not their physique be vastly superior to that of a class left to run wild in the yard? And would not such an additional store of animal vigor and strength stand them in quite as good stead in the world as their limited store of school-book learning? The graduates of West Point can be singled out of a crowd by their straight forms, erect walk, general quickness of movement, and superior physical development. On a small scale, why cannot the elementary schools reach the same results? Any business man knows that sound health and power of endurance are quite as necessary to success as quickness in matemat-

ics, or skill in the use of language. What merchant would not rather have his son come to the counting-room with every muscle strung to its highest tension, quick, active, self-reliant, strong, and proud of his strength, even if he knows a few pages less of a few books, than to see him drag home a thin face and attenuated muscles? Do not mechanics and laborers think it of some importance that their sons, who will take their places and live by manual labor, shall have sinewy frames, as well as intelligent minds? By far the greater number of boys who attend the public schools grow up working men. To all such, power of endurance is the most practical education. The arm to lift a fifty-pound dumb-bell is better than the analysis of cube root.

A sound body is the only capital they have to start with in life. Knowledge may be power, but muscular strength is food and clothing. Some men must earn their living by muscular labor, as well as others by their wits. Horace Mann said, and he knew the truth of it, "All through the life of a pure-minded but feeble-bodied man, his path is lined with memory's grave-stones, which mark the spots where noble enterprises perished for want of physical vigor to embody them in deeds."

Sound health is a necessary condition of all permanent success, and the greatest draw-back to our public school system is the neglect to provide for this necessity. Better illiterate strength than sickly erudition. It is true that sometimes a heroic spirit conquers physical weakness, but such cases are exceptions. Dr. Kane braved the terrors of the arctic regions, and endured more than many physical giants, but died in Cuba. Nature had her revenge.

Many teachers will say, that is all very fine theoretically, but it is utterly impossible to carry it out practically in the school. Yet, it can be done, has been done, and is done in a great many public schools.

Connected for ten years with a public

school of five hundred children, during five years of that time gymnastic and calisthenic training was made a part of daily education, just as much as arithmetic, or geography, or grammar, and with quite as satisfactory results. Having practiced all that I recommend, I am troubled with no doubts in urging the practicability of physical culture in the public schools. True, it was rather hard in the beginning, to be blamed with innovations, laughed at by conservatives, and found fault with by parents. But persistency and patience overcame all obstacles. Mothers who at first objected to letting their boys exercise in the gymnasium, for fear they would break their necks or tear their clothes, soon grew proud of the strength and agility of their sons.

Delicate girls, who horrified their mammas with accounts of wands and dumb bells, grew to like both, as they grew stronger under daily drill. Pale, weakly, good-for-nothing boys, who at first only moped around the yard and looked at the other boys, soon became interested and took hold in earnest, until the narrow chest expanded, the round shoulders straightened, and the soft, flabby arm became like knotted whip-cords.

The measurements of many boys' arms showed an increase of circumference of one inch in three months, and an expansion of the chest of two inches in the same time. Some of my most pleasant memories of teaching are connected with my gymnastic classes of athletic boys, who could kick foot-ball, play base-ball, lift dumb-bells, swing clubs, climb ladders, vault the bar, walk the parallel, swing on the rings, foot it twenty miles on Saturday excursions, and box and wrestle with their teacher. I would not give those boys who have since grown up to be rugged men, rejoicing in their health and strength, for all the arithmetical prodigies in the United States. As I feel the hearty grip of their hands, my only twinge of pain is, that

when I went to school my teachers did not have a higher estimate of muscle, and a lower one of books.

One of those "big boys" of my class, has been for several years the leading gymnast of the Olympic Club Gymnasium of the young men of this city, and I am quite as proud of him as of another boy that has grown to be a scholar. Another strapping fellow, six feet two, straight as an arrow, and strong as Hercules, who has been two years in the army, fighting Indians, is a walking illustration of the benefits of gymnastic drill in a public school. I would not thus allude to my experience, except that any reference to gymnastics is met by many teachers with one argument, condensed in a single word—*impracticable*.

How shall such exercises be conducted in a public school? The excellent books on the subject render it unnecessary to go into detail. All children have arms, and the will to use them. With or without music, any teacher in any school, graded or ungraded, can give ten minutes a day for free arm movements. A few dollars will buy a set of wands, and some wooden dumb-bells; and the girls can make two dozen "bean bags." With this simple apparatus alone, any teacher with an ordinary amount of ingenuity, tact, or skill, can, with the aid of a book, have a good light gymnastic class.

Half an hour a day can be taken out of the school hours, and the children be all the better for losing so much study-time. A vast amount of training can be given, even in the short period of a year. The time for study and recitation ought to be reduced. In years to come, little children will not be confined in school more than three hours a day. Years ago, the good old-time clergymen preached sermons two hours long, and those who could not stand them patiently were held to be weak in the faith. Better sermons are now delivered in thirty minutes, with quite as good re-

sults. So it will be with schools. Better teachers than we, when the present six-hour system shall have become obsolete, will teach more in half the time. Not length of time in study, but the quality of thought, and the force of action, is the measure of mental progress.

The light gymnastics are good for the smaller boys and girls; but the "big boys" will generally prefer some out-of-door exercises. The movable horizontal bar is a great favorite with boys, and the exercises on it are among the best of the gymnasium. One can be set in any school yard for twenty dollars. A few iron dumb-bells will be useful. The Indian clubs are excellent for the arms and chest, but boys do not generally "take to them." The swinging rings cost but little, and are liked very much. Leaping is a pleasant yard amusement, and requires only two sticks and a string. Football is a rough and tumble game; but it has the charm of intense excitement, and the more the boys get of it the better. Bruised ankles and sore legs are forgotten in the exultation of winning. Rugby ought not to monopolize it. Base ball is a fine old game, which ought always to be kept before the boys. An occasional Saturday pedestrian excursion of twenty miles is a fine thing if the teacher can stand it. I was reminded of one the other day by a strapping fellow, who exclaimed: "It made my legs ache, but how nice the beefsteaks were that we broiled on sticks over the fire." A set of boxing gloves will make fine fun for the older boys, and yet give them the most vigorous kind of exercise. "Do you box any now-a-days?" was one of the first salutations of one of my "boys," who has just returned from the army. He was thinking of the half hours after school with the boxing gloves, in the old school-house, and how, with the aid of what he had learned there, he whipped the eyes out of a big "bully" at the West Point Military Academy. Wrestling used to be a favorite

amusement, and what New England boy does not remember many a hard tussle on the green sward around the "old school-house."

Teachers who wish to succeed in physical training must study variety in their exercises. Boys are fond of novelty and change, and the same routine day after day will soon tire. Marbles, tops, kites, and ball follow after one another, changing quite as often as the moon. It requires more skill, tact, judgment, and knowledge of boy nature to succeed with a gymnastic class than to teach arithmetic or grammar; one requires a soul and sympathy with boy nature, the other does not. An owl should not mingle with the singing birds; and a cold, formal, dignified, and melancholy teacher has no business in the boys' play-ground. If he cannot kick a foot-ball well the boys will laugh at him.

Every teacher needs gymnastic exercises and amusements. No occupation so drains the nervous power; he must find the "fountain of youth" in the sports of boyhood. What matters it if examinations are a little less "brilliant," children less precocious, and "school phenomenon" less common? The object of school is to train up children to be sensible men and women, and to form tastes and habits which shall follow them through life.

The indirect lessons of the play-ground are often more valuable than the formal teachings of the class-room, and the kind words there spoken will soften the necessary severity of discipline in a public school. In the hours of play, when "off duty," the teacher with a great heart can win the souls of children while training their bodies. What teacher would not be remembered by his pupils as a sharer of their sports, a sympathizer with their boyish amusements, as a living man who had a heart, and moulded their character, and formed their tastes, rather than as a mere schoolmaster who only expounded text books!

THE YEAST PLANT.

The following interesting article is from a little book entitled BOYS AND GIRLS IN BIOLOGY, by SARAH HACKETT STEVENSON, a pupil of Prof. Huxley. As the author says in her preface, "The volume is in nowise intended to take the place of a text book." Yet we think teachers may make our extract, the context of several very instructive lessons, and the book itself the source of many more. [EDITOR JOURNAL.]*

Upon the old stone hearth by the kitchen fireplace, stood a quaint-looking earthen jar, whose outside, so often spattered with batter, told of the treasures within--the precious buckwheat-cakes.

My early affection for these most questionable articles was most unquestionable; indeed, my heart was in them from the time they were mixed, with familiar sound, the night before, in the depths of that mysterious jar, till in the morning they foamed over its brim, and over the ladle on to the griddle, and at last yielded themselves, crisp and brown, to the melting influence of fresh butter, maple-syrup, and a good appetite.

But what have these buckwheat-cakes to do with Science? Well, I had long since forgotten about the queer old jar and our first experiment in the store-room, when, one morning, away over in London, I went to hear a great professor lecture on Biology: that means he was going to tell about plants and animals--everything that has life. Now, I had heard a great deal about this professor, how he believed that the monkeys were our relations, and how he loved to vivisect, that means, cut up alive, all kinds of animals. So I expected to see a cruel-looking man, doing very cruel things. But I saw nothing of the sort. With a kind and peaceful look, he stood upon a platform at one end of the large lecture-room, and what do you think was on the table before him? A cup of yeast--the very thing I wanted to know about!

Now, if you will get a little yeast to look

at while I talk, you will better understand what I say--just a spoonful or two in a glass or cup will do. Let me tell you that every thing you notice about this yeast has a meaning. I cannot tell you about all the things you may see; but I can tell you about some of them, and, when you get older, you can perform original experiments and find out other things for yourselves. The first thing that you will probably notice about the yeast is, that it bubbles, and these bubbles look something like the soap-bubbles with which you and I have so often played; but we have to make our soap-bubbles, while these seem to make themselves. Soap-bubbles come from the air which is caught in the water, and is trying to get away, while the yeast bubbles are formed by a gas called carbonic acid, which is made by the yeast. It was found by the bursting of these bubbles that they did not contain common air like the soap-bubbles, so that men began to study yeast to find out what it was that made all this blubbering, and I am going to tell you all they have discovered so far. If you ask me why the air does not stay in the soap-suds and the gas in the yeast, I can tell you only that all kinds of gas, and air, which is made of two kinds of gas, never will stay in any one place unless they are held by strong walls. I have seen you boys and girls sorry when you could not make your toy-balloons stand out again and go to the top of the room, now you know the reason why; the mischievous air inside had found a little hole in the wall of the balloon, and the air outside helped its imprisoned brother to escape through this hole. Now, you are such little Yankees, you will be sure to ask me if this air and gas are so restless, and try so hard to get away from every place, why they do not fly from the earth altogether, and leave us without anything to breathe, to burn, or to bubble. There is no wall outside the earth to keep them from going, no; but

there is a queer something called "ATTRACTION" that makes things fall down instead of up. Somebody found it out one day when he was sitting under an apple-tree. I dare say you all know the story. It is this same ATTRACTION which keeps the air down to the earth, and does not let it fly away. How funny it would be to see boys' caps, and balls, and even the boys themselves, go fly-ing up into the sky! What is ATTRACTION? I do not know; you sometimes get your knives magnetized, and then, when you put the knife near a nail, the nail comes right toward it. The force that draws the knife is one kind of ATTRACTION. The centre of the earth is something like the magnetized knife; it makes everything on the surface come toward it, and keeps us all from flying away, nobody knows where. So much for the gas that makes the yeast-bubbles. The next thing that you will notice is the brownish color of the yeast. As it stands, it grows thicker and more muddy-looking, and, in the course of an hour or so, it begins to *rise*, as the cook says; the chemists call this rising FERMENTATION, and the BIOLOGISTS call it GROWING. You will find that your spoonful has grown into a cupful running over. It is just as though a farmer should sow a handful of wheat, and, for every grain of wheat he sows, he finds a hundred grains in the harvest. So you sow the yeast in the sugar and water, which is its soil, or NIDUS, as the scientific men call it, and you have all this harvest of new yeast. Perhaps you are ready now to understand why the professor began his lectures with yeast instead of an elephant or a monkey. The yeast is really alive, and it is one of the simplest forms of life of which we know; so, in order to study BIOLOGY, or the Science of Life, we begin at what seems to be the beginning. Now, where does this life stay in the yeast? You see, the yeast is not solid like wheat or corn, but liquid like milk or soup; but

milk is not alive, you cannot sow it; nor will it grow and make more milk, else the milkmen would soon be finding it out, and what large crops of milk they would sow.

All that I have described, you can see with your own eyes, but now I must begin to tell you something about the yeast which you could never find out with your eyes alone, sharp as they are. It is not liquid, like the milk, but contains a great many little solid bodies floating about in it, and so small that you cannot see them with the naked eye. They never would have been seen had it not been for the MICROSCOPE. The word is made of two words, which mean "little" and "to view," so this instrument makes little objects look many hundred times larger than they are; for instance, the dust which rubs off on your fingers from the butterfly's wing, looks as large as the feathers of a canary-bird. You must find out who invented the microscope, and save your pin-money till you get enough to buy one. You can soon learn to use it, and it will give you more pleasure than all the toys in old Santa Claus' pack, with his sled and reindeer thrown in. You can never get tired of it as you tire of toys, for it will always show you something new. The first man who looked at yeast through a MICROSCOPE, saw these little bodies floating about, but he did not know at all what they were; he thought they might be bits of barley. Sometimes they are found quite alone, but most frequently they are seen all joined together in groups, like boys and girls at play. Each one is about one three thousandth of an inch in size, that is if you were to take a piece of an apple about an snch long, and divide it into three thousand equal pieces, each piece would be the size of one of these little solid bodies in the yeast. Some of them are even four times smaller--regular little Tom Thumbs! Though they are solid, yet we can see through them, just as we can through a piece

of glass, hence they are called TRANSPARENT. Now you see why the yeast looks like a fluid, because these bodies are so small and so clear, or TRANSPARENT. Next I want you to notice their shape; they are always round, some of them not as round as your balls, more like a lemon; but none of them are square like a block, or flat like a three-cent piece. The cover of each one is double, that is, it has an outside and an inside, just as your ball-covers, have an outer and an inner surface. When you look through the MICROSCOPE, these two surfaces look like two round lines--one within the other. Inside these lines you will notice something which looks like little grains, and this whole cover, with all that is inside of it, is called a CELL. Now you must learn of what these cells are made. First, there is the outside part which is like a bag, or *sac*, something like a ball-cover, if it were white and clear, or TRANSPARENT. This bag, or ball-cover, is tough and solid, and, instead of being filled with yarn or India rubber, it is full of a soft, jelly-like substance, which is thick and brownish next the wall of the bag, but thinner and more *transparent* toward the centre. This jelly is called PROTOPLASM, which means *first form* or *mould*, and the thin space in the centre is an air-cell, or VACUOLE. If you color the yeast-cells, you can see the different parts much better, a drop of *magenta* will pass right through the sac without staining it at all; the cell-jelly, or PROTOPLASM, will be quite red, and the thin spot, or VACUOLE, will not be colored, though it may look pinkish because you look at it through a layer of red jelly, or PROTOPLASM. Now, if the cell were all made of the same material, it would probably all be colored by the *magenta*. Chemists have found that this sac or ball-cover is made of the same materials as the cells of wood. It is called CELLULOSE, and it is mixed with a little water and MINERAL MATTER to make the cell-wall. The cell-jelly, or PROTO-

PLASM, is made of water, PROTEIN, MINERAL MATTERS and fats. We know what all these things are, except the PROTEIN. The water is made of two substances—HYDROGEN and OXYGEN; the CELLULOSE or woody fibre is made of three kinds of matter—CARBON, HYDROGEN, and OXYGEN; and the fat is made of CARBON, HYDROGEN, and OXYGEN. We know the protein contains CARBON, HYDROGEN OXYGEN, and NITROGEN, with either SULPHUR or PHOSPHORUS—perhaps both. It is very common because it is found in all living matter; there is no life without it, so it has been called “the foundation of life,” yet no one knows very much about it. When you begin to make experiments for yourselves, perhaps you can discover how it is made. I want each one of you to remember this word “*protein*,” because it is the name of the most important thing in your body. The word means *first* or *chief*, and by-and-by I want to show you how it is something about this PROTEIN, or “foundation of life,” that makes one of the greatest differences between your body and your spoonful of yeast.

If you ask me what the CARBON, OXYGEN, HYDROGEN, and NITROGEN are, I can tell you only that they belong to what are called the SIMPLE ELEMENTS, that means, each of them is made of only one kind of matter. Every substance in the world except the metals and minerals, such as gold, sulphur, etc., is made up of two or more of these four SIMPLE ELEMENTS. CARBON comes from a word which means *coal*, and charcoal is one form of CARBON—the diamond is another. OXYGEN means a *producer of acid*; it was so called, because it was supposed that it had a great power to make acids. It is the most abundant of all the elements, and it is so necessary to animal life, that it has been called “vital air;” more than seven million tons of it are breathed every day. HYDROGEN means *water-producer*. Water is made of HYDROGEN and OXYGEN. This is the lightest of all

the elements, so that balloons are always filled with hydrogen gas. NITROGEN means the *producer* of *nitre*. It helps to make the air we breathe and the PROTEIN that we feed upon. Now that we have pointed out and named the different parts of each cell, and found out what they are all made of, let us see if we can discover the use of each part. First the tough, woody sac seems to hold and protect the soft cell-jelly or PROTOPLASM. The jelly, or rather the PROTEIN, which is the chief part of the jelly, is the substance which makes the cell alive. This is the first form of life of which we know—just a simple sac filled with PROTEIN, which looks like the white of an egg. All the living things of the earth begin to grow from such tiny cells. The little grains or GRANULES we find in the yeast-cells are probably the little bits of food which have been taken in, as we shall soon see. The thin space toward the centre seems to be a drop of watery fluid separated from the rest of the jelly, which you know contains a good deal of water.

These yeast-cells have a very pretty name, so I think I will give it to you before I go any further. They are called TORULÆ—a single one is a TORULA. The word means a *little knobby swelling*. You will see after a while how it comes to have this name. If you have followed me carefully—better still, if you have seen it all for yourself under the MICROSCOPE—you know that the yeast-cells—TORULÆ—are alive and that they grow. Everything that grows must have food; you could not grow to be men or women without “bread-and-butter.” Now, where does our knobby friend, the TORULA, get its “bread-and-butter?” From the liquid in which it floats. What is this liquid? The greater part is water; so we might think we had found the original “cold-water doctor”—the inventor of hydropathy; yet, if you sow yeast in pure water, it will hardly grow at all. But if you put in ever so little sugar, it

will smack its lips and froth and bubble considerably. It must be a regular little HOMOEOPATH, because, if besides the sugar you give it the least little bit of AMMONIA, MAGNESIA, LIME, and POTASH, it will thrive splendidly and grow like a little weed, only it does not grow in the same way as the weed. The TORULA takes in its “little pills” and churns them into the “elixir of life” or PROTEIN, woody cells or CELLULOSE and fat; then if you watch carefully you will see a whole lot of little buds coming out around the edges of the wall; hence, the TORULA is really a *little knobby swelling*. Some of the buds at their edges; all these buds are the little baby TORULÆ, and by-and-by they break away from the old mother TORULA, and go to house-keeping for themselves. They always pay visits back and forth, and sometimes build their houses right next the parental roof, in clusters like a pop-corn ball, and at other times they build them in long rows like a chain, or a string of beads. And, if there isn’t room inside, they go outside, just as they did in the old buckwheat-jar. After all, Charley was not so wrong, for these torulæ are the little spirits of the yeast.

Of this you may be sure, every TORULA has a mother. Topsy, you know, said “she never was born, never had a mother,” that she just “grewd up;” but Topsy was mistaken, so are the people mistaken who say that TORULÆ just grow up. Poor Topsy did not know the scientific name for being born without a parent—the wise men call it SPONTANEOUS GENERATION. Some people have been trying to prove for two hundred years or more that these little specks of life can make themselves. I will tell you how you can prove that this is not true. Heat kills these little fellows; you know the cook has to be careful not to mix her bread with water that is too hot, and not to let it stand too near the fire. Take two bottles and half fill them with sweetened

water, or, what is better, "Pasteur's fluid," *and sow just a drop or two of yeast in each, heat them both till they boil, and as they are cooling, cork them up with cotton or "cotton-wool," as the English say. Let them stand for a few days, and there will be no signs of life in either, but if you place just one of the TORULÆ into a bottle and cork it up again, the cell will begin to grow and multiply, or FERMENT, till the bottle bursts. The other bottle will remain perfectly quiet; the heat has killed all the TORULÆ that were inside, and the "cotton-wool" acts as a strainer, and will not allow any of these germs or cells which might be floating in the air to pass through it. I have seen bottles more than a year after they had been corked in this way, and yet there was no sign of bubbling or FERMENTATION in the fluid. If the cells could make themselves, surely, in such a bottle they have time and opportunity. Cotton is the best air-strainer that has ever been discovered; if you are ever in a place where the air is filled with fine mineral dust or poisonous matter, you can prevent it from entering your lungs by breathing through a piece of cotton. Such a filter is called a RESPIRATOR. Common clay jars, like your mama's flower-pots, are also good filters for the yeast. These jars are full of tiny holes, or PORES, too small to be seen. If you put some yeast in one of these POROUS jars, and set this one in a larger jar containing sweetened water, the yeast-fluid will pass out and the sweet-fluid will pass in; the two will thus mix together, but there will be no bubbling or FERMENTATION in the outer jar, because the TORULÆ cannot pass through the PORES or little holes of the jar, the cells are so much larger than the holes.

These little yeast-cells float about in the air, or lie asleep in any place where it is dry and comfortable, and never show that they are alive or awake till they are planted in some nest or NIDUS. When the cook dries her yeast-cakes, she puts all the TORULÆ to sleep, and then they go into winter quarters, or hibernate in their cells like the bears in their caves, and some of them sleep longer than old Rip Van Winkle himself.

There is another appearance of yeast about which I have not told you; if you let your cup of yeast stand long enough, and do not add any more sugar or water to it, you will notice that the bubbling or FERMENTATION stops, the TORULÆ cells settle to the bottom, and the fluid comes to the top. The fluid has a strong or biting instead of a sweet taste, like the fluid in which you first placed the yeast. The FERMENTATION has changed its nature—the TORULÆ, like so many little fairies with their wands, have turned the sugar into CARBONIC ACID, ALCOHOL, GLYCERINE, and SUCCINIC ACID. These are called the PRODUCTS OF FERMENTATION. THE CARBONIC ACID, you know, passed off through the bubbles; the other products are still in the fluid. If you taste a little of this fluid it will make you merry, if you take much of it you will become intoxicated; this is due to the ALCOHOL, and the value of yeast depends upon its power to make ALCOHOL. The distiller takes this fluid, and separates the ALCOHOL by a process called DISTILLATION. If you had a RETORT, you might distill some for yourselves. You may know that the fluid is ALCOHOL, if, when you touch it with a lighted match, it burns with a blue flame. But you must be careful in making this experiment, as the internal-revenue officer might arrest you for *illicit distillation*. I advise you never to drink the ALCOHOL which you or anybody else may distill, because it is very injurious. Now I have told you the TORULA grows; it has life, but

* Potassium phosphate.....	20 parts.
Calcium phosphate.....	2 "
Magnesium sulphate.....	2 "
Ammonium tartrate.....	100 "
Cane-sugar.....	1,500 "
Water.....	8,376 "
	10,000

how does it grow—as a MINERAL, a VEGETABLE, or an ANIMAL? Minerals have a kind of growth, but the new matter which a mineral adds to itself is placed externally, not internally. The mineral grows larger and larger by additions made to its outside, as the snowballs get larger and larger when you roll them along the snow, or as candles become thicker and thicker as they are dipped into the melted tallow. This is called growth by ACCRETION, but the TORULA or yeast-cells grow by taking in new substance in among the particles of its old substance, and this kind of growth is called by a long name—INTUSSUSCEPTION. This is one of the reasons why it is not a mineral: is it an animal? The line that divides the animal from the vegetable kingdom is not very well marked, but there are two reasons why the TORULA is not an animal. In the first places, its jelly or PROTOPLASM is shut up in a close sac; you remember the tough, woody CELLULOSE that I compared to a ball-cover sac, but PROTOPLASM-jelly of animal cells forms a wall of itself. In the second place, the TORULA can make its own food, or PROTEIN, out of the raw material it finds in the liquid, while the animal-cells seem to have no such power; they must have their PROTEIN all ready made, and their work is to destroy it. So if the TORULA is not a MINERAL nor an ANIMAL, it must be a VEGETABLE. Vegetables are the MANUFACTURERS OR PRODUCERS of PROTEIN; animals are the DESTROYERS OR CONSUMERS of it. This is why I asked you to remember a PROTEIN: plants can make it, animals cannot, and this is one great difference between plants and animals or between you and your spoonful of yeast. And so you might call the VEGETABLE KINGDOM, Nature's big kitchen, where the MINERAL KINGDOM is cooked and made ready to be eaten by the ANIMAL KINGDOM. The vegetable-cells with their white sacs are the little cooks in white aprons; how clean they are, and how fast

they work! They are such intelligent little creatures, too, they never burn up the dinner nor let it sod, for they know just how to regulate the heat of their ovens. They do not spoil your digestion with pastry or confections, and they are so economical, that they never let a bit of anything go to waste. If we had such cooks in our kitchens, we should never die of dyspepsia or poverty. Some plants have been noticed standing outside the kitchen-door, catching flies, stray bits of meat, or any ready-made food that comes in their way, eating with an appetite and digestion worthy of the fat boy in "Picwick." The Venus fly-trap not only traps the poor flies, but eats them; so it seems that some plants have the power of not only *making*, but of *destroying* PROTEIN.

You have now found out that the TORULA, or yeast-cell, is a plant and not an animal; the next question is, what kind of a plant is it? Mostly all plants need the sun, but the yeast-plant grows as well in the dark as in the light. Plants that need the light are always green; they take in that poisonous gas, CARBONIC ACID, and give off OXYGEN; but the TORULA has no green color, and it takes in OXYGEN and gives off so much CARBONIC ACID, that it is dangerous for people to walk over a distillery-vat while the TORULA are working. GREEN PLANTS cannot live without this CARBONIC ACID, but it poisons human beings. Those plants which *give off* CARBONIC ACID, *grow in the dark*, and are *not green*, are called FUNGI, The mushrooms and toadstools are FUNGI.

Now you will probably wish to know where the first TORULA came from—the great, great old GRANDMOTHER TORULA of all. Nobody knows; we can only say God made it; how he made it no one can tell. Chemists know that it contains so much CARBON, HYDROGEN, OXYGEN, and NITROGEN, and a few other things; but they cannot put these same things together again and make a TORULA; so, if you ask me what life is, I cannot tell you. Now, let us see how many things you have learned about yeast: First, that it is alive; second, that it is a plant; third, that it is a FUNGUS.

And now, perhaps, you understand what my buckwheat-cakes had to do with Science.

EDITORIAL DEPARTMENT.

SALUTATORY.

Two classes in the community of this Western coast have long experienced a want, which, if never urgent, has not the less existed. These classes are the teachers, and the patrons of our schools. The want felt by the former is some adequate, accessible means of improving themselves as educators, of elevating their class and profession. Conscientious school patrons feel the lack of knowledge of educational organization, of the difference between good and bad methods of instruction, of the condition of the schools, else where than in their own little community.

In this land of the "Far West," we claim equality, if not pre-eminence, in the adaptability and completeness of our educational system; in the high salaries paid to our teachers; in a word, in the breadth and liberality with which education is regarded by all classes of our community.

But on the other side, in no other States of the Union, are there such frequent changes in the professional ranks; the number of those who consider teaching a life-long occupation, is smaller; the nature of education, and the best means of educating are less understood; and a systematic training in a Normal School, or by normal methods, is the rare exception, not the rule.

The parents and patrons of the children attending school, have also labored under the burden of this hitherto unsupplied want. Nowhere in America do our people feel greater interest in education than in this community. It is regarded by them with love and reverence, as the cornerstone on which our republican form of government—our very social organization rests.

But how few of them know anything of the schools of their own State, of teachers, of methods of teaching, or of the most elementary principles on which education is based !

Here then, we indicate the PURPOSE OF THE

PACIFIC SCHOOL AND HOME JOURNAL. As regards teachers, it is to publish such articles, original and selected, as have a direct bearing upon their daily labors—to discuss new methods of instruction—to afford space where educational matters may be submitted for proper consideration, and where teachers can secure an audience of their co-laborers—and, finally, to foster a professional spirit, an *esprit de corps*, now sadly lacking.

The second object of our enterprise is to interest parents and all persons of intelligence, understandingly in education—to bring the schoolroom and the fireside more closely into unison.

The PLAN on which the JOURNAL will be conducted may now be noticed.

First—we propose always to keep the "HOME" part on an equality with that of the "SCHOOL." The technical articles will occupy their due proportion of the space, but no more. Prominent and progressive educators have engaged to supply us with articles on the different topics taught in our schools. These, we feel assured, will be treated from the standpoint of thinkers, and with the light of Nineteenth century investigation and experience. The other articles to accomplish our first purpose, will be on matters of scientific interest and general literature, of such a character as will cultivate the mind of the reader—will conduce to give a taste for study and investigation—will "introduce a higher culture into the schools, and the home circle."

To accomplish the second object—to interest parents in educational work, statistics will be gathered; an accurate record of educational progress in other communities, as well as in every part of our own State, will be published; communications will be made public, showing, not merely how the schools should be conducted, but how they are; in short, we purpose to draw the public attention to our schools in such a manner as will disclose their inner workings, and will enable parents to know whether or no, their

children are trained in accordance with common sense and modern thought.

To these two classes, then, teachers and parents, THE PACIFIC SCHOOL AND HOME JOURNAL makes its appeal. Our publication is an experiment, which can be made successful only by the hearty support of the great body of teachers and of those patrons of the common schools, who have sufficient intelligence to appreciate the benefit a School Journal can be to them and to education.

GENERAL NOTES.

The London *Non-Conformist* advises the friends of undenominational education in England to use all their power to make the new compulsory educational law, which went into effect January 1st, as complete and beneficent in its operation as possible. The law is unsatisfactory to Dissenters in many particulars, but it is a great advance upon all former legislation. It requires every parent of a child "to cause such child to receive efficient elementary instruction in reading, writing and arithmetic." No child under ten can be sent to work for wages, and no child over ten who cannot produce a certificate of educational proficiency. The attendance certificate must be for 250 times in each year. The standard of proficiency will be raised in successive years. Employers who violate this law will be liable to a penalty not exceeding 40s. Parents who, when ordered to send their children to a "certified school," refuse or neglect to obey, will be fined.

It is very certain that the act is not to remain a dead letter on the statute-book. The two opposing parties—Churchmen and non-Conformists—will sharply watch its working. Each is determined that the other shall gain no undue control of the education of the people. Whether it will most favor denominational or undenominational education, is a question which time only can solve.

San Francisco has, at present, two or three school buildings unoccupied, presumably, for want of children to fill them. In the meantime, hundreds of boys and girls are running our streets, or idling at home, or vainly seeking work—in short, doing anything and everything but attending school. They seem to have a feeling, in which their parents evidently join, that history, geography, grammar, and word analysis will not plan houses or build them; will not en-

able them any better to handle a plane or saw, to make a casting, to engrave, print, carve, mould, or do any one of the numberless things in which the circumstances or inclination of middle-class children induce them to engage. Now, would it not be a good idea—the truest kind of economy—if the San Francisco Board of Education secured about half a dozen competent teachers, expended—say \$500, at the most, for necessary apparatus, and organized an elementary technical school in one of the vacant buildings? We are not suggesting the establishment of a Technical University or College of Mechanic Arts, but simply, of an elementary school, such as exist by the score in Germany and France. And we are positive it will require no great outlay of money, but that the project is altogether feasible. The amount of good that would result to the community cannot easily be calculated, and would justify many times the expenditure actually necessary.

MR. E. B. TAYLOR in a lecture before the London Institution on the Philosophy of Language, closed as follows in reference to the English tongue: "Utter lawlessness is shown in the grammatical distinctions of gender, especially in the Latin languages. A clean sweep has been made in that respect in the English, rendering this language the envy and admiration of foreign grammarians. It is well that English has these high practical qualities, for statistics show that it will probably absorb all other languages. Should the extraordinary increase of English-speaking continue at the existing ratio, there would in twenty years be 850,000,000 speaking English, as against 124,000,000 speaking German, and 70,000,000 speaking French. Much is to be regretted that such a language is encumbered with a ridiculous and absurd alphabet. What is wanted is a carefully-drawn phonetic alphabet, which will enable people to express English and foreign words, which will be a pronouncing, not a mispronouncing alphabet."

In the Mann High School, at Toledo, Ohio, a current magazine has been introduced as a reading book. A few teachers in some of the San Francisco Grammar schools attempted a short time ago to teach reading by means of daily newspapers. The results might have been satisfactory had it been possible to put papers into the pupils' hands, free from personal abuse of contemporaries or vilification of political opponents. As things were, the experiment was soon abandoned.

Vesuvius shows signs of increasing activity. Professor Palmieri, writing from the observatory on the mountain, says that although smoke is issuing with greater force and increased volume, fire is no longer visible in the interior of the last mouth, opened December 18th, 1865, in consequence of an immense amount of material having fallen into it through the giving way of a portion of the crater in 1872. An extraordinary eruptive force will be necessary either to make a way through the enormous accumulation of sand and scoriae or to open some new mouth, whether on the summit or the side of the volcano.

A new, and we think, pleasant feature in our Journal, will be the STUDENTS' DEPARTMENT, which will make its appearance in our next issue. It will contain declamations both in prose and poetry; dialogues, school plays, problems of different kinds, answers to questions on a variety of subjects, and interesting matter generally for school exercises. We trust teachers from country and city will favor us with contributions to this department. We shall thankfully receive and acknowledge all suggestions, and assistance that will tend to make it interesting to the general reader, and of use in the schoolroom.

The Supreme Court, early last month, decided a question of great importance to school districts in California. In the case of *The People vs. Scale*; the payment of a school tax was resisted on the grounds that the election imposing the tax had not been legally conducted. The polls were open during the election from 1 P.M. to 6 P. M. The Supreme Court decided that school elections were subject to the general election law, and must be conducted in all respects as other elections. The polls must, therefore, be opened at school elections one hour after sunrise and closed at sunset.

On December 26th, a bouquet of flowers and leaves was gathered in Olympia, Washington Territory. A potato, of good size, was cut in two pieces, the inside scooped out, and the flowers inserted in the cavity. Securely wrapped, the package was committed to the care of the Postl Department, and after a journey of fifteen days across the continent; reached its destination in Worcester, Massachusetts. The flowers were as fresh and bright as if they had been packed within an hour.

There are fifteen high schools in California with 1,532 pupils and fifty-two teachers.

The Legislature of Oregon has memorialized Congress in reference to a geological survey of the State, referring to a previous survey having been commenced in the then Territory of Oregon, but not continued. They suggested that the indications of vast beds of iron, coal, gold, silver, etc., are very promising, and they request Congress to make an appropriation, in the interest of science and general commerce, for a thorough geological survey.

We cannot refrain here from giving a word of praise to the great majority of our California local press, for the deep interest they take in aught pertaining to education. In many of our most flourishing villages, the editor is the backbone of all efforts to promote the efficiency of the school. And it is very seldom that the California editor is heard advocating a reduction of the teacher's salary, or a shortening of the school term.

Dartmouth has furnished fifteen United States Senators (among them WEBSTER and CHASE), sixty-one members of the House of Representatives, thirty-one judges of the U. S. and other courts, two cabinet ministers, four ambassadors and foreign ministers, one Postmaster-General, fourteen Governors of States, twenty-five college presidents, and one hundred and four professors in colleges and other institutions.

Arizona has about 3,000 children of school age, of whom 1,213 attend school. The total value of school property is \$42,230; and the disbursements for the year ending Dec. 31, 1876, were about \$29,000. Governor Safford is entitled to much credit for the interest he has displayed in education, and for the energy with which he has so successfully established a free school system in the Territory.

We acknowledge our obligations to the local papers of this State in the way of educational items. The greater portion of those presented to our readers in this issue of the JOURNAL, was obtained from their columns. If any of them recognize a familiar face among our items, we trust they will consider their lines sufficient credit.

The trustees of Dartmouth College have elected Professor Samuel C. Bartlett to the Presidency, made vacant by the resignation of Rev. Asa D. Smith. The new President is a graduate of Dartmouth.

About \$50,000 are expended annually in books for the district school libraries of this State.

There are 30,000 teachers in the public schools of the State of New York; they annually draw \$7,965,804 from the public treasury, an average of but \$22 per month for each. One million pupils are annually taught; the total expenditures of the past fiscal year were \$11,439,038.

Mr. Lamot, who has had great experience as an arctic traveler, is of the decided opinion that the north pole is entirely encircled to a distance of 500 miles with eternal ice, perhaps miles in thickness at the center. He does not think it can be traversed by any agency whatever.

Dartmouth College has taken a progressive step by allowing women to attend all class recitations and lectures, and to be examined with the young men, although herself reciting privately, and only occasionally to the professors.

The National Teachers' Association meets in Washington this year; March 1st, 2d and 3d. The delegate from California, a year ago, was Ex-State Superintendent Swett. There is no representative from the Coast this year.

A scheme for the organization of a Mechanical University is engaging the attention of a number of the influential citizens of London, England. It is believed that such an institution will soon be in operation.

Prof. Fielding Meek, who has for many years filled the chair of Paleontology in the Smithsonian Institute, died in Washington a few months ago. He was regarded as the first paleontologist in America.

State Superintendent Carr, who has been seriously ill with the rheumatic fever for eight weeks, is convalescent, and again attends to the duties of his office.

Alexander Bain, an eminent philosopher and professor in the University of Glasgow, Scotland, died January 11th, aged sixty-seven years.

The amount of money spent on the common schools of California, since their organization in 1852, exceeds \$25,000,000.

A compulsory Education Bill is now before the Ohio Legislature.

ITEMS FROM COUNTIES.

ALAMEDA COUNTY.

Alameda County has more school children than any other county in the State, excepting San Francisco. Oakland alone has 3,778.

A. Mr. Eaton, well known as a successful business college teacher in Boston, has established a Commercial College in Oakland.

The attendance at Washington College, Washington Corners, is greater this session than ever before. This school, under the management of Rev. S. S. Harmon, M. A., and his wife, ranks high among the academies of this Coast.

County Superintendent Lynch has received from Superintendent Carr, State Educational diplomas issued to the following teachers: Cordelia Kirkland, of Oakland, Isaac Wright, of Oakland, and J. C. Gilson, principal of Pleasanton School.

Prof. H. S. Craven, formerly principal of an Oakland grammar School, has been elected principal of Alameda High School.

The San Leandro Public School is at present in excellent condition. The Principal is E. C. Kilpatrick; the assistants are Misses Walsh, Holdron, Anderson, McQuade, Russell, and Murphy. There are 277 pupils enrolled.

Miss A. S. Barnard, who has been the Principal of the Mount Eden School, since 1863, with the exception of two terms, has taken the Castro Valley School. Miss N. Newbury succeeds her at Mount Eden, with Miss Jessie Williams as assistant. There are seventy-five pupils in the two departments; and it is one of the most orderly and well-trained schools in the County.

M. J. Nolan, for a number of years, the efficient and popular Principal of the San Lorenzo School, has commenced the practice of law in San Francisco. His successor at San Lorenzo is E. N. Warren, formerly Principal of an Academy in Iowa. He has two assistants, Misses De-Vee and Penwell.

The Oakland teachers hold monthly meetings, to discuss matters connected with their school work. The City Superintendent presides over these gatherings, and they are found highly beneficial. This is a plan which may be imitated with advantage in other cities.

The Livermore Collegiate Institute has added a Normal course to its curriculum of studies. A Business Department, and a course in Telegraphy have also been provided for, by the employment of competent instructors. The College, under the management of Prof. I. D. Smith, has been a great benefit to Alameda County, and the success of the management has been such as to attract scholars from other parts of the State.

SANTA CLARA COUNTY.

Special thanks are due E. Rousseau, the capable and popular Superintendent of this County, for the promptitude with which he answered our circular, and the fullness of the educational information furnished. Mr. Rousseau has taken the same active, live interest in the starting of a first-class educational journal, that he does in the interest of his own county. Our readers will see in this department, similar evidences of wide-awake work, and interest in education on the part of other superintendents, whose names appear in connection with the items published.

The State Normal School, at San Jose, has a corps of thirteen teachers, 395 regular students, and 100 more in the Training School. The school has never before been in so flourishing a condition; its sphere of usefulness extends to every part of the Coast. The principal, as nearly every one knows, is Prof. C. H. Allen.

The facilities for education in this county are most excellent, in most of the districts, and, with a few exceptions, the teachers are competent. The changes of the teachers, within the past few months, have been numerous. J. G.

Kennedy has become City Superintendent of San Jose; G. E. Lighthall, T. E. Kennedy, and Mr. Klenck have been elected teachers of the San Jose High School; Mrs. Hollenbeck, C. H. Clement, and J. L. Chipman, have been elected principals of Grammar schools in San Jose, and B. R. Foss has been transferred to the Second Ward Grammar School. Miss Merrill is Principal of the Mayfield Public School. The other towns have made no changes. The Country schools are continually changing.

SOLANO COUNTY.

The Suisun Public School, taught by the County Superintendent, C. W. Childs, publish a well printed, well-conducted, and very readable little paper, called *The Suisun School Journal*.

The teachers of the Dixon schools are about to form a Teachers' Association. The Principal of the Grammar School of Dixon, M. A. Boggs and the editor of the *Dispatch* had a little fracas in that place, about February 1st, in which Mr. Boggs is said to have laid some heavy blows with whip or raw-hide, on the editor's head and face. The difficulty grew out of some remarks in the *Dispatch*, reflecting on the teacher's competency.

HUMBOLDT COUNTY.

There are about 500 pupils in the Public Schools of Eureka.

MONTEREY COUNTY.

The School Trustees in the town of Watsonville, have decided to build a fine, large, school-house, as the one now in use is inadequate to their wants.

A new school-house is about to be erected in Summit, the old one being too small to accommodate all applicants.

It is proposed to close the public schools of Salinas City, on account of the prevalence of diphtheria.

County Superintendent McCrosky has been visiting the schools of his county, and finds them in an excellent condition. The Castroville schools, taught by George Furlong, Principal; Misses Shaw and Pratt, assistants, was found with 154 pupils in attendance, and excellently conducted.

The Salinas City *Index* devotes about two columns to educational topics.

I. H. McEwen has been engaged to take charge of the Carrolton District School.

On moving into the new building, a high school class is to be organized in Watsonville.

STATE OF NEVADA.

The State Superintendent has just completed the first semi-annual apportionment of school moneys for 1877. The number of children in the State, between the age of six and eighteen is 8,475. The apportionment amounts to \$25,175.14.

SONOMA COUNTY.

In this county, there are 138 school districts. Of this number, 50 are First grade schools, fifty-eight, Second grade, and 30 Third grade. The number of teachers is 165. The salary of the County Superintendent is \$1,600; the average monthly wages of teachers, \$83.

The Board of Education of the city of Petaluma supports a school for two colored children, at an expense of \$45 per month.

Both colleges in Santa Rosa, the Pacific Methodist, and the Christian, are in a very flourishing condition. At no previous time, have there been so many scholars in attendance. The Business departments of each school will have an unusually large number of graduates at the end of this term.

CONTRA COSTA COUNTY.

The Martinez Grammar School opened a few weeks since, with Miss J. Dickinson, Principal, and Misses Wittermeyer and Swain, assistants.

There is an Educational Aid Society in Martinez; it holds regular monthly meetings.

SAN FRANCISCO COUNTY.

San Francisco has a "Teachers' Aid Society," which for the past three years has done a good work in that department. The society is in a very flourishing condition, having about \$3,000 in a savings bank, drawing interest, and a large membership. The Directors announce monthly literary and musical entertainments, in which some of the most prominent teachers of the City will take part. The main object of the entertainments, and a highly commendable one it is, is to make teachers better acquainted with each other, and to give a taste for literary recreations. The initial performance, winding up with a social hop, will take place about the middle of March.

At a regular meeting of the Board of Education, held February 20th, the Committee on Cosmopolitan schools presented the following report. From it we may conclude that the teaching of French and German in San Francisco, has not been altogether successful:

As the schools exist at present, the Committee recognize the following difficulties as standing in the way of the fullest measure of success:

First.—The children who hear French and German spoken at home are taught together with those of American parentage.

Second.—Pupils are permitted to commence and to abandon the study in any grade from the 8th Primary to the senior class of the High School.

Third.—Pupils who do not study French or German, are permitted to attend Cosmopolitan schools, which necessitates mixed classes.

Fourth.—Teachers of Modern Languages are not entrusted with the discipline of the class, and so are lowered in the estimation of their pupils.

Fifth.—A smaller percentage of credits is allowed for French and German than for most of the English studies, and pupils are thereby led to undervalue the importance of the modern languages.

Sixth.—The text books used, which, at the time of their introduction, were perhaps, the very best that could be found in this market, are now by the almost unanimous voice of the teachers, pronounced as inferior, to many others that could be procured.

No County Institutes have been held in this city for about six years past. Since the present Superintendent entered upon the duties of the office, he has called and presided over meetings of the class teachers of every grade in the department. These meetings have already resulted in bringing about greater uniformity of work, and a better understanding of what is required in the revised course of study.

E. D. Humphreys, for many years, the efficient and popular Principal of the Hayes Valley Grammar School, has been compelled to resign his position, on account of ill health. We believe he proposes to make his home in the southern part of the State. His successor in the Hayes Valley School, is George Brown, the former Vice-Principal.

Ellis H. Holmes, Principal of the San Francisco High School from its organization to 1863, and since that time at the head of the Girls' High School, has retired, after a service of over twenty-five years, from the profession. John Swett is his successor.

A strong effort is being made by many parents living in the northern part of the city, to have the Union Grammar School, now exclusively for boys, changed to a mixed school.

Selden Sturgis, a successful teacher in an outside school, has been promoted to the Vice-Principalship of the Eighth

Street Grammar School. Capt. Itsell of that school was transferred to the vacancy in the Hayes Valley School, made by the promotion of Mr. Brown.

SAN LUIS OBISPO COUNTY.

County Superintendent, J. M. Felts, of this county, has just made an extended report of a tour of the schools of San Luis Obispo in the columns of the local paper, from which the following extracts are made:

The Estella School has just changed teachers; J. L. Haines, the former Principal, having gone to Kansas, Mr. J. W. Stringfield takes his place.

Miss Leonora Hazen, a recent graduate of the State Normal School has charge of the Corral de Piedra School, near the great ranch of Steele Bros.

LOS ANGELES COUNTY.

The boys of the Anaheim school propose to issue a weekly school paper, called the *Weekly School Boy*.

The number of pupils enrolled in the Los Angeles City schools is 841; the average daily attendance is 542. There is a high school with two teachers, a grammar school with four, an intermediate school with four, three teachers in the primary school, and nine ungraded schools. There are but three men in the department. The City Superintendent is C. H. Kimball.

There is a strong pressure in Los Angeles to close the public school on account of the small-pox epidemic. The City Superintendent opposes the movement.

SACRAMENTO COUNTY.

Mrs. E. F. Palmer, a teacher in the Sacramento Grammar School, has resigned her position. Miss Gourley was promoted to fill the vacancy.

The Board of Education has made a requisition on the Board of Trustees, when the general tax levy is made, of thirty-five cents on each \$100, for school purposes.

County Superintendent, Landis, has made out the last apportionment for the various schools of the County. The amount is \$6,750.20.

MENDOCINO COUNTY.

ED. PACIFIC SCHOOL AND HOME JOURNAL.

Dear Sir:—Our schools in Mendocino County do not usually begin until about April 1st, and continue on average about seven months in the year.

Six new school districts have been formed within a year, as follows: Hopland, Beall's Landing, Con Creek, Carroll, Whitcomb, and Pomo.

From present indications there will be a greater number of new school-houses built this year than in any one year preceding, as the districts are becoming more permanently established, and the territory of the county is becoming rapidly settled. During the last school year there were built four new school houses, one of which was the elegant brick school-house of Ukiah, erected on the ruins of the academy building destroyed by fire in July, 1875. The number of school districts in the county at present is 54. Of the above, 19 are first grade; 27 are second grade, and 4 are third grade. Four remain to be graded.

The average salary paid to male teachers in this county is \$75, and to female teachers \$67.

The total valuation of school property in the county is \$40,468. Total number of children between 5 and 17, according to the census of last June, 3,025; of these 192 are Indians, and 3 are negroes. Number that have attended public schools during the year, 2,383; a little over 80 per cent. excluding Indians and those who attended private schools.

Our County Institute will be held sometime in May.

The Superintendent will commence his regular annual visitation of schools about April 1st.

JOHN C. RUDDOCK,
County Superintendent.

BOOK NOTICES.

LESSONS ON OBJECTS—TWENTY-FIFTH EDITION.

SAN FRANCISCO: A. ROMAN & CO.

It is now twenty-five years since object-teaching came into vogue in this country. No long period elapsed before educators recognized the correctness of the principles on which the theory was founded; and attempts were soon made to supplant the hum-drum, artificial style of schoolroom work with the Pestalozzian system. A number of books have been published, some good, many indifferent, for the purpose of introducing the system to the American teacher. In the former class, and the most valuable work of the kind we have seen, is the little volume above referred to. Its principal feature is, that it is entirely practical. The author spends no time in theorizing. Teachers are not told how to give certain lessons—the lessons themselves are given. The range of subjects is wide, embracing almost every familiar object that can be thought of. While the suggestions to the teacher are few, they are exceedingly plain, and the most inexperienced will find the task of instructing with its aid, both pleasant and easy. The book is precisely what is needed in the graded schools of the State, and those teachers in the San Francisco schools, who now labor and groan over "Oral Instruction," will find it a valuable assistant.

HISTORY OF THE PUBLIC SCHOOL SYSTEM OF CALIFORNIA—BY JOHN SWETT. SAN FRANCISCO: A. L. BANCROFT & CO.

The expectations raised by the announcement of this book, have been fully realized by its appearance. It is a great acquisition to the educational literature of the country. The mass of information contained in the volume of 250 pages, is considerable, yet the style is so concise that it appears much less than it really is.

There are two points, which in our judgment, afford room for considerable improvement. The exterior of the book is dreary and uninviting; it reminds the would-be reaper too much of a "Patent Office Report," to give promise of interest and instruction within.

Then, we believe, the author would have done well to have omitted the institute addresses and essays that occupy a considerable portion of the work. They do not properly belong to the history of education on this coast, and there seems no good reason why these particular articles should have been chosen, and not others equally worthy preservation. The best we can say of them is, that they are worth reading, though much out of place. However, on the whole, the book is a decided success, and the contemporary teacher will be more than repaid by a perusal of its pages.

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THE PACIFIC SCHOOL AND HOME JOURNAL.

VOL. I.

SAN FRANCISCO, APRIL, 1877.

No. 2.

WILDNESS.

IN TWO PAPERS.—NUMBER ONE

BY JOHN MUIR.

One of my acquaintances devotes all his days to the destruction of the fine wildness of his mountain home,—making ways through the blooming wilderness for his plow; blasting moss-enamelled rocks, chopping and burning the woods, and banishing even the tiny gilia and violets with unsparing vigor. Like those zealous improvers who claim the right of a divine call to teach, my friend seems to have received a call to plow, and woe to the daisy sod or azalea thicket that falls under the savage redemption of his keen steel shares. Not satisfied at least in theory with the so-called subjugation of every bog, rock, and moorland, he would fain discover some method of reclamation applicable to the ocean and sky, that in due time they also might be compelled to bud and blossom as the rose. Our efforts are of no avail when we seek to turn his attention to *wild* roses, or to the fact, that both ocean and sky are already as rosy as possible, each in its own way. But no kindness charms my friend, charming never so wisely; and

whatever may be the character of his heaven, his earth seems only a chaos of agricultural possibilities, calling for grubbing-hoes and plows. The practical developments of his culture manifest themselves in orchards and grass-fields, outspread in firm rectilinear order, and smiling benignly through the autumn with haycocks and apples. Whenever I venture to approach this man of grass and fruit with a plea for wildness, he good-naturedly shakes a big mellow apple in my face and reiterates his favorite aphorism, “culture is an orchard apple; nature is a crab.” Happily, all tillers of the soil are not equally destructive and unappreciative. Nature’s own orchards and meadows find loving recognition, and few there be who would welcome the axe among the mountain pines, or who would care to apply any correction to the tones and gestures of mountain waterfalls. Nevertheless the barbarous notion is almost universally entertained, that there is in the productions of nature something essentially coarse, which can only be eradicated by human agency. I was delighted, therefore, to find out that the wild wool growing upon the mountain sheep in the neighborhood of Mount Shasta was much finer than the average grades of cultivated wool. This fine discovery was made while

I chanced to be traveling with a band of hunters, between Mount Shasta and Lower Klamath Lake. Three fleeces were obtained, one of which belonged to a large ram about four years old, another to a ewe about the same age, and the third, to a yearling lamb. After parting their beautiful wool on the side and in many places along the back, shoulders, and hips, and examining it closely with my lens, I shouted exultingly "well done for wildness! Wild wool is finer than tame!" The hunters stooped good-naturedly and examined the fleeces for themselves, pulling out tufts and ringlets, spinning them between their fingers, and measuring the length of the staple. Then each, in turn, paid tribute to wildness. "It is finer," said they, "and no mistake,—finer than most grades of Spanish Merino," wild wool is finer than tame. "Now," said I, "here fortunately, is an argument for the fineness of wildness that needs no explanation, not that such arguments are by any means rare, for all wildness is finer than tameness; but because *fine wool* is appreciated by everybody alike, from the speculative presidents of national wool-growers' associations to the humble gude-wife spinning by her ingleside."

Nature is a good mother, and looks well to the clothing of her many bairns. Birds with smoothly imbricated feathers, beetles with shining jackets, bears with shaggy furs. In the South, where the sun warms like a fire, they are allowed to go thinly clad, but in the snowy northlands she takes care to clothe warmly. The squirrel is furnished with socks and mittens and a tail big enough for a blanket. The grouse and sage-hen who have to brave the Sierra winters, are warmly feathered down to the end of their toes, and the wild sheep, besides his undergarment of fine wool, has a thick overcoat of hair that sheds off both the snow and the rain.

Other provisions and adaptations, relating less to climate than to the more mechan-

ical circumstances of life, are made with the same consummate skill that characterizes all the love-work of nature. Land, water, and air; jagged rocks, muddy ground, sand-beds, forests, underbrush, grassy plains are considered in all their possible bearings while the clothing of her beautiful wildlings is being invented and put on. No matter what the circumstances of their lives may be, she never allows them to go dirty or ragged. The mole, living always in the very ground, is yet as clean as the otter or the wave-washed seal; and our wild sheep exposed to mountain storms, wading in snow, roaming through bushes, and leaping among ragged cliffs, wears a dress so exquisitely adapted to its mountain life that it is always found as unruffled and stainless as a bird.

I regret exceedingly that the instruments at my command do not enable me to measure the diameter of the fibres, so as to compare them exactly with the finest of the domestic breeds. But that these three wild fleeces are considerably finer than the average grades of Merino sheep shipped from San Francisco, is, I think, shown beyond doubt.

When the fleece is parted and looked into with a good lens, the skin appears of a beautiful pale-yellow color, and the delicate wool fibres are seen growing up among the strong hairs like grass among stalks of corn; and thus every individual fibre is protected about as specially and effectively as if enclosed in a separate husk. The wool is too fine to stand alone, the fibres being almost as frail and invisible as the floating threads of spiders; while the hairs against which they lean stand erect like a hazel wand. But notwithstanding this great dissimilarity in size and appearance, the wool and hair are forms of the same thing, modified in just that way, and to just that degree that renders them most perfectly subservient to the wellbeing of the sheep. Furthermore, we might call attention to the

fact, that these wild modifications are entirely distinct from those effected through the accidents or caprices of cultivation; the former being inventions of God for the attainment of definite ends, like the modifications of limbs,—the fin for swimming, the wing for flying, the foot for walking. So the fine wool for warmth, the hair for additional warmth and to protect the wool, and both combined for a fabric to wear well in mountain roughness, and to wash well in mountain storms.

The effects of culture upon wild wool are analogous to those produced upon wild roses. In the one, there is an abnormal development of wool at the expense of the hair, and in the other an abnormal development of petals at the expense of the stamens. Garden roses frequently exhibit stamens in which the transmutation to petals may be observed in various stages of accomplishment, and analogously the fleeces of tame sheep occasionally contain a few residual wild hairs that are undergoing transmutation to wool. Even wild wool presents here and there a fibre evidently in a state of change. In the course of my examination of these wild fleeces, I found three fibres that were wool at one end and hair at the other. This does not, however, imply imperfection. Wild water-lilies contain parts variously developed into stamens at the one end, petals at the other, as the normal condition. The entire universe is in a state of change—flowing like a river. The circumstances of a sheep's life,—food, climate, the mountains over which it roams, its friends and enemies, etc., change imperceptibly from generation to generation and from day to day; and, so, of course, mother Nature must ever have her fingers in wild wool, making corresponding changes in the maintenance of perfect harmony.

As soon as I returned from the mountains, I made haste to offer Shasta wool to my friends, demanding in return that the

fineness of wildness be fairly recognized and confessed; but the returns thus far are deplorably tame. Their first inquiry on the presentation of the samples was usually made in the language of the nursery rhyme, "Wild sheep, wild sheep, have you any wool?" while they peered curiously down among the hairs through lenses and spectacles.

INTEREST BY CANCELLATION.

BY. DR. T. H. ROSE.

I know of no text book on arithmetic that presents this subject to pupils as I am in the habit of doing. I will take any number of children of ten years of age who are familiar with the fundamental rules of arithmetic, and in a week they shall readily compute the interest on any sum, for any time, and at any rate, monthly or yearly; and, they shall clearly explain also the entire process. No book that I have seen will do this.

I first give them this formula:

$$I = P \times T \times R$$

That is, Interest equals the Product of Principal, Time in years, and Rate per year.

Days and Month are easily expressed as fractions of a year, and monthly rate is easily reduced to yearly.

RULE.—Draw a vertical line. On its right place Principal, Time in years or fractional part of a year, and rate per year. When fractions are involved place all denominators on left. Cancel across the line as far as practicable. Then the product of the numbers remaining on right divided by the product of those on left will give the required interest—always pointing off two places, and four if there be cents in the principal.

EXAMPLE.

1. Interest of \$150, for 8 months, at 1 per cent. per month?

$$12 \left| \begin{array}{r} 150 \text{ principal} \\ 8 \text{ time in years} \\ .12 \text{ rate per year} \end{array} \right.$$

\$12 interest.

ANALYSIS.—The interest of \$1 for 1 year is 12 cents, and for $8-12$ of a year, $8-12$ of 12 cents. If this be the interest of \$1, the interest of \$150 will be 150 times as much, which gives, after cancelling, \$12.

I shall not illustrate the cancellation in my examples in this article, as any one can easily perform that part of the work. In the above example it will be seen that 12 cancels 12, leaving 8 times 150 for the answer.

2. Interest of \$50.50 for 10 months, at 6 per cent. per year?

$$12 \left| \begin{array}{r} 50.50 \\ 10 \\ .06 \end{array} \right.$$

\$2.52 $\frac{1}{2}$. Ans.

2. Interest of \$30 for 40 days at 2 per cent. per month?

$$360 \left| \begin{array}{r} 30 \\ 40 \\ .24 \end{array} \right.$$

80 cents.—Ans.

ANALYSIS.—The interest of \$1 for 1 year is 24 cents, for $40-360$ of a year it will be $40-360$ times as much, and, on \$30 it will be 30 times that product, which is 80 cents.

Here 40 cancels against 360, leaving 9 on left. The 9 cancels against 30 by dividing both by 3.

4. Interest of \$50.20 for 1 year and 8 months, at $1\frac{1}{2}$ per cent. per month?

$$12 \left| \begin{array}{r} 50.20 \\ 20 \\ .15 \end{array} \right.$$

\$12.25.—Ans.

Here 1 year and 8 months is $20-12$ of a year and $1\frac{1}{4}$ per cent. per month is 15 per cent. per year. We point off 4 places in the product as the rate counts two and the cents in principal two more.

5. Interest of \$200 for 8 months and 16 days, at $6\frac{1}{2}$ per cent. per annum?

$$360 \left| \begin{array}{r} 209 \\ 255 \\ 2 \quad .13 \end{array} \right.$$

\$9.24.—Ans.

Here 8 months and 16 days equal 256 days, which is $256-360$ of a year. $6\frac{1}{2}$ per cent equals 13-2.

6. Interest of \$200 for 2 years at 10 per cent per year?

$$0 \left| \begin{array}{r} 200 \\ 2 \\ .10 \end{array} \right.$$

\$40.—Ans.

7. Interest of 50 cents for 2 years 6 months and 6 days, at $1\frac{1}{2}$ per cent. per month?

$$360 \left| \begin{array}{r} .50 \\ 906 \\ .18 \end{array} \right.$$

.2265.—Ans.

8. Interest of \$1,000,000 for 1 month and 10 days, at 3 per cent. per annum?

$$360 \left| \begin{array}{r} 1,000,000 \\ 40 \\ .03 \end{array} \right.$$

\$3,533 $\frac{1}{2}$. Ans.

These examples are quite sufficient for my present purpose. In future articles I will illustrate my method of working the problems of Interest, Compound Interest, and Partial Payments, by cancellation.

Before closing, however, I wish to remark that all examples in interest are in reality examples of proportion. For instance. What will be the interest of \$150 for 36 days, at 7 per cent. per year?

To see the proportion, we will state it in this way. If \$1 in 360 days will produce 7 cents, what will \$150 produce in 36 days?

STATEMENT.

(e)	interest	$\left \begin{array}{r} 150 \text{ dollars} \\ 36 \text{ days } * \end{array} \right\}$	(c)
(c) $\times \left\{ \begin{array}{l} 1 \text{ dollar} \\ 360 \text{ days} \end{array} \right.$		7 cents (e)	

That is \$1 for 136 days is the cause of 7 cents in trust and \$150 for 36 days is the cause of x interest.

By cancelling across the line we get as in former examples.

360	150 Principal
	36 Time years
	7 Rate per year

\$1.05 Interest.

It is a principle in philosophy that like causes produce like effects. That is:

1st cause : 1st effect :: 2d cause : 2d effect.

or

1st cause : 2d cause :: 1st effect : 2d effect.

or

$$1 \times 360 : 150 \times 36 :: 7 : (x).$$

Here we have 2 means and one extreme to find other extreme. Dividing the product of the means by the given extreme we get the other extreme which is \$1.05 cents.

In reality proportion should come before interest, in the books, as every one will now conclude. Advanced pupils should be taught to state all examples of interest by proportion and explain them by it as I have done.

THE ANTIQUITY OF MAN.

ABRIDGED FROM A LECTURE BY A. DE QUATREFAGES.

The unity of the human species once demonstrated, many problems arise before us.

The first is that of the antiquity of man. Have men been always upon the earth? Did they appear at the same time with the other species of animals? Are they very ancient on the globe? Such are the first questions which present themselves to our minds.

You all know what is the action of heat upon certain bodies. For example, you all know that water heated to a certain degree vaporizes; that if this vapor loses a certain quantity of heat, it is liquefied; that in losing still more, it forms a solid body—ice. This ice may become so solid, that in St. Petersburg they have been able to construct it into palaces, and have made cannons of ice that have been fired. You can

understand that a sufficient quantity of heat will reduce all bodies to vapor, and that sufficient cold will solidify them.

Now, the facts of astronomy seem to prove that, of old, our earth, with all it contains, and all the materials that compose it, began as a vast, vaporous mass diffused in space. It was a globe of vapor. When the process of cooling set in, this mass became liquid, and, during periods of time which we cannot compute, it was only a vast mass of rocks and of matter melted by fire.

It is needless to insist on the fact that, at this epoch, on the surface of our globe, there were no living beings, and consequently no men.

The cooling progressing, there is formed a pellicle on the surface of the globe, and this pellicle goes on increasing in thickness. This is what we call the primitive earth. On this primitive earth, during a long period, water could not exist in a liquid state, and consequently there were as yet upon our earth no living beings, for all these beings need water; and, of course, no men.

But the process of cooling continued. The water which was vaporized in the atmosphere fell in torrents on this crust which enveloped the globe; chemical reactions, of a violence of which we can form no idea, were produced. At this moment was begun the formation of what we call the earth of transport, and the globe entered upon what is called the Secondary epoch.

Strictly we may say that, from the moment the waters rested in a liquid state upon the surface of the earth, life might begin to manifest itself. In certain thermal waters of high temperature, we find confervæ—microscopic vegetables which are already organized and living. But no animal could yet live in this medium, for the heat would coagulate its albumen. Later, the cooling always progressing and

the sea enveloping the greater part of the globe, more complex vegetables appeared. Soon animals, chiefly aquatic, made their appearance, and among them I would mention those gigantic reptiles you have sometimes seen represented in certain book announcements on the walls of Paris. Mammals—man—could not yet inhabit our globe.

As the cooling progressed, continents formed by the upturnings of Nature. The time came when true mammals and birds, analogous to living species, appeared in their turn. This was the commencement of the Tertiary epoch. Then, very probably, man might have lived. We shall presently have to ask if he did not exist, at least in the latter part of this period.

The dislocation of the crust of the globe elevated the mountains, dug the valleys, sank the seas, formed the continents, and, toward the end of the Tertiary period, the globe presented a surface much resembling what we see now. Here commences the Quaternary period. This Quaternary period presents to us a very remarkable phenomenon.

Up to this time, putting out of account the slight oscillations that have occurred, the globe seems to have cooled in a nearly uniform manner, from the time when it formed only a mass of vapor, down to the Tertiary epoch. With the Quaternary period came a moment wherein a cooling, perhaps sudden, but in any case very marked, showed itself and then disappeared.

At this moment, a part of the globe at least, and Europe in particular, was much colder than it is now. We have proof of this in the glaciers of the Alps. Instead of stopping at the place where they do now, these glaciers filled most of the Swiss valleys, descending even into the valley of the Rhone; and from one end to the other of these valleys, enormous blocks of rock were transported by the glaciers, and left

on the spot. It is these which now constitute what we call erratic blocks or boulders.

During the Quaternary epoch, there lived in France very different animals from those which we find now. Among them I may refer to the great cave-bears, which were remarkable for their size and for their bulging foreheads. I will also mention the hyena. You know that now we have no hyenas, and that they are only found in countries much warmer than France. To the preceding species I will add the rhinoceros. I call attention particularly to an elephant which we call the mammoth. This elephant is easily distinguished from species now living; by its size, first, for it is much larger than they; then by the form of its remarkably recurved tusks; finally and chiefly, because, in place of the naked skin of the elephants we know, he was covered with a thick wool and very long hairs.

Of all this we are certain; for this elephant has been found preserved whole, with his skin and his hairs. At different times they have discovered in the frozen earth of Siberia, the dead bodies of these animals. That country contains in such great numbers the tusks of these antediluvian elephants, to employ a common expression, that the commerce in fossil ivory constitutes a considerable source of revenue, and the State reserves a monopoly of it.

I call special attention to this elephant, and we shall see why.

The Quaternary period ended as those that preceded it; and then began the present period. Since the time of its commencement, the continents, the flora, and the faunæ, have not undergone any considerable modifications.

Nobody has ever questioned the existence of man at the beginning of the present period, and some have even considered his appearance as the characteristic feature

of this period. But did man exist before? To employ the common expression, were there antediluvian men? In other words, and to return to scientific language, is man the contemporary of those animal species among which appears the mammoth? May he be found, like the mammoth, in a fossil state?

Such is the question that has been often put, and which was long answered in the negative. Down to these later times, the most eminent men in Natural History, in Geology, in Paleontology, were all agreed on this point, and I need only state that Cuvier, in particular, never admitted the existence of fossil man.

To-day we are led by many well-ascertained facts to answer this question very differently. We are forced to admit that fossil man does really exist, and that man was contemporary with those species of animals I have been speaking of, especially with the mammoth.

This is certainly one of the most beautiful discoveries of modern times! The ground for it was laid by the establishment of a certain number of facts observed in England, in Germany, in France. But the honor of having brought decisive proofs, which convince everybody, belongs incontestably to two Frenchmen—to M. Boucher de Perthes, and to M. Edouard Lartet.

M. Boucher de Parthes, the eminent archaeologist of Abbeville, while inspecting the excavations made in the earth around his native village, at Menchecourt, and at Moulin-Quignon, discovered stones fashioned in a peculiar manner, and the same form was constantly reproduced. It was soon evident to him that this circumstance was not accidental, but that these stones owed their form to human industry. Now, these polished flints and stone hatchets were found in the earth associated with the bones of elephants; whence he concluded that the men who had fashioned them

lived at the same epoch with those great mammifers long since extinct.

This conclusion, drawn by M. Boucher de Perthes, was at first vigorously contested. In particular, some of the men whose decisions have justly the highest authority on questions relating to the history of the earth, thought that the chipped flints and the bones of elephants were found together in the same bed because this bed had been altered. They said: A first bed was formed which enclosed the bones of elephants. On this bed, during the present period, men lived and have left these chipped flints as a trace of their presence. Then came a mighty tempest, which rolled and confounded together the hatchets and the elephants' bones. Hence we now find them side by side, although the bed to which they belong contains the remains of two perfectly distinct epochs.

M. Lartet studied at Aurignac, in the south of France, a burial place of these remote times. It is a grotto excavated in the side of a hill at a height which is not attained by water-courses, analogous to those of which we find the trace in the neighborhood of Abbeville. This sepulchral grotto at the time of discovery was closed by a slab taken from a bed of rocks at some distance from this point. In the interior were found the bones of seventeen persons, men, women, and children; and before the entrance were found the well-attested remains of a fireplace. There were traces of funeral repasts that the first inhabitants of our country were in the habit of making, and such as we sometimes find in our own day among certain European peoples. In the ashes of this fireplace were found bones bearing the trace of fire, and excrements of wild animals. These bones, scorched by the fire, bearing traces of the hand of man, were the bones of the bear and of the rhinoceros. The excrements were those of a species of hyena contemporaneous with

the preceding animals. Here, consequently, man appears as eating the animals in question; as making his repast of those very animals whose contemporaneousness with him has been disputed.

M. Lartet crowned these beautiful researches by discovering in a cave, in the center of France, a piece of ivory on which was unmistakably represented the very mammoth to which I have just called your attention. It is very evident that this picture could only be made by a man who lived at the same time with this elephant.

In view of M. Lartet's discoveries, we must admit the existence of fossil man, that is to say, the coexistence of our species with the lost species of animals of which I have spoken.

Since this epoch, besides, we have not only found traces of these primitive industries, but *debris* of jawbones, and entire crania. Hence we can judge of the characters which distinguished our first ancestors. Strange to tell, we find that these men who, even in France, warred with stone weapons such as I have shown you, against the elephant and the rhinoceros, have still at the present day in Europe descendants presenting the same characters.

—*Popular Science Monthly.*

EDUCATION AND THE KINDERGARTEN.

IN THREE PAPERS.—NUMBER ONE.

BY REV. THOS. GUARD.

What is there that may not be educated? What is there around us, that does not enclose a possibility of development into something fairer, stronger, purer? Pluck a stone from a mine bed and you shall by skill and pains and perseverance, so elicit its latent sympathies with light that it shall become fit to gleam in iridescent splendor upon the cinctured head of a queen.

Upheave the block from its quarry, and

let Angelo bend over and apply his chisel and his genius to the "education" of the marble mass, and you shall look upon a form of limb and lineament so fair, so august that even the Supreme Divinity cannot find it in His heart to deny the spark that shall kindle the splendid product into the majesty of living manhood. Transplant the wildflower of South Africa from its arid soil and torrid suns and tempests, and subject it the care of a skillful gardener; and, the cultured plant shall, in reward greet him with a tint more delicate and an odor more exquisitely fragrant. And proofs abundant lie around us, of the verity of the suggestion, in improved breed of horse, and sheep, and ox, and apples, and plums, and vine tree. Why the very planet on which we dwell, has been undergoing a process of education, during an untold period of time. Fire and frost and ocean; earthquake and volcano; light and lightning; rains and winds and atmosphere; organic and inorganic forces—all, what were they but the educators by whose single and combined services the once chaotic mass without form and void, at length rolled through space, vested with beauty, vocal with "melodies, of woods, winds, and waves," dimpled o'er with Yosemite valleys, dotted over with Alp and Chimborazo peak, a fitting habitation for man to dwell in. Nor did the education of our planet terminate with man's appearance; it were nearer truth to say that then the earth entered upon the "high school" period of her full development. To-day, as a result of man's power over nature, earth is a thing of vastly more value than when our race first climbed its slopes or worshipped in its tropic groves. The precious things of the lasting hills, and of the deep that coucheth beneath, and of the life that broods in forest, roams over prairie, blooms in garden, ripens in tropic sun, have responded to man's educating touch, thereby intensifying their loveliness and augment-

ing their worth. What yet awaits our orb as the result of man's more intelligent endeavor to evolve all that still lurks within the prolific womb of being, it were vain to predict. With a profound and universal civilization obtaining, the might of man to lift to higher levels the dwelling place assigned him, may miserably dwarf by comparison, the much vaunted achievements of the age we live in. Compared with ours, that future age shall find our globe a "new earth," domed by "new heavens," all the consequence of the forthputting of noble energies, and more cultured skill, in the study and in the development of life, force, and law. And what of him for whom this earth was fashioned? Does he enter into life full-fashioned and equipped? or, like all around him, subject to the law of development through education?

Of all existences, known to us, none begins life more crude and raw, more insufficient and incomplete, more helpless or dependent. Yet, what an opulence of possibilities is there within that small mass of rosy-hued flesh and blood! Bending over the cot wherein the new-born mystery slumbers, well might even a seraph gaze with awe. Thus once slept the old Singer of the tribes of Greece to whose tones and symphonies nations and peoples, as the stars for multitude, have listened and yet shall lend enraptured audience.

HOW TO TEACH ELEMENTARY SCIENCE.

*BOTANY.

BY HENRY KIDDLE.

As a science of observation, botany has a decided advantage over zoology, especially for educational purposes, inasmuch as

the objects of which it treats are examined, dissected, and analyzed with more facility. They also possess more obvious beauty, and are devoid of the repulsiveness which attaches to so many objects of the animal kingdom. An insect, apparently disgusting at the first view, when closely examined, often shows more beautiful properties and more striking evidences of design than the most elegant blossom; but the natural aversion to handle it, or come in contact with it, must first be overcome.

The *classification* of plants, being based upon distinctions often very minute, must, for the purpose designed to be accomplished in these simple lessons, be carefully limited. Only common plants need to be classified. The limitations of the classification to be taught are indicated below.

The first *few* lessons should show the *structure* of plants and the general functions of each of their parts—the *root*, the *stem*, the *leaf*, the *flower*, the *seed*; the *growth* of the plant from the seed, both as to root and stem; the food of plants; buds and branches—how a plant grows from them; the distinction between *herbs*, *shrubs*, and *trees*; also between *annuals*, *biennials*, and *perennials*. Examples of each to be given.

Classification of leaves—a beautiful and very useful department of the subject, especially as a means of training the powers of observation—may then be taught, the children being encouraged to gather specimens for careful scrutiny. The vocabulary employed to indicate the peculiarities is very interesting and will serve to teach something of etymology—as *avate*, *cordate*, *palmate*, *digitate*, *serrate*, etc., etc. Give the pupils *formulae* for methodical examination and description.

Classification of roots and stems, to be taught in a similar manner, but much more briefly. Next that of *blossoms*. First show the parts of a blossom, taking a regular one to begin with—as of a *lily*, a *morning-*

* From *How to Teach*, by Henry Kiddle, Supt. of Public Instruction, Thos. F. Harrison, First Ass't. Supt. Grammar Schools, and N. A. Calkins, First Assistant Primary Schools, New York City.

glory, or a *butter-cup*. Analyze so that the pupils can see the parts showing the *calyx* and *sepals*, the *corolla* and *petals*, the *stamens*, and the *pistil, with its ovary*. Give a sufficient number of exercises to make this familiar, and let the pupils analyze for themselves. The *principal forms* of flowers, as *bell-shaped*, *wheel-shaped*, *silver-shaped*, *cross-shaped*, *butter-shaped*, etc., etc., may then be shown. The *arrangement* of the blossoms on the stem (*inflorescence*), as far as it can be exemplified by actual specimens, as *head*, *raceme*, *spike*, *umbel*, etc., may also be learned.

The following outline of classification may be taught:

A (Series). Flowering (*phanerogamous*) plants.

A (Series). Flowerless (*cryptogamous*) plants.

At first use only the *familiar* terms. The scientific may often be dispensed with entirely. Give examples of plants in each series; as—*rose*, *lily*, *geranium*; *fern*, *moss*, *mushroom*.

A, including a (class). Outside-growing (*exogenous*) plants.

A, including b (class). Inside-growing (*endogenous*) plants.

Illustrate by *stems*, showing the rings or annual layers of growth in the former, with *bark*, *wood*, and *pith*, and their absence in the latter. Teach the coincident peculiarities of the leaves, as *netted-veined* and *parallel-veined*, affording a ready method (approximate) of distinguishing these plants, and thus giving opportunity for useful exercises; also those of the seeds as of two seed leaves (*cotyledons*) or only one (*dicotyledonous* and *monocotyledonous*.)

Familiar examples to be found by the pupils; such as rose, buttercup, geranium, pea, potato, grape-vine, etc., etc., and lily, Indian corn, common grass, etc.

(a) Including, 1. Orders or families of plants with blossoms of many petals (*poly-petalous*); and, 2. Orders or families of

those with blossoms of one petal (*monopetalous*). The pupils will readily find specimens of each, the names of which they have already learned.

The orders of (b) should not be taught. Nor need any instruction be given in relation to the classification of cryptogamous plants, *ferns*, *mosses*, etc., this being too difficult, and depending upon distinctions not sufficiently obvious for the purpose of these lessons. Attention, however, may, if occasion offers, be called to the *fructification* of ferns.

Such of the *orders* or *families* should be taught as are very familiar, and depend upon quite obvious distinctions, familiar names being exclusively used. Thus the *Mustard Family*, the *Pulse Family*, the *Crowfoot Family*, the *Rose Family*, the *Lily Family*, etc., etc., may be taught as far as the collection and presentation of specimens render it desirable; that is, not the mere fact that there are such families, but in connection with an actual object, and when the *inquiry* is, To what family does it belong? If the season permits, and there is an opportunity for the pupils to seek for specimens, this part of the instruction may be extended. Here the judgment of the teacher (never to be superseded) must be carefully exercised, it being constantly in view that the object of these lessons is not to make the pupils *botanists*, but to create a basis for the study of natural objects, and to develop the faculties of perception and reflection. *Species* need not be taught, although the pupils may, as occasion offers, be made to perceive the diversity presented by different individuals of the same family, so as to learn what is meant by species.

The *common uses of plants* may be taught to some extent incidentally with some of the above instruction, but more fully at this stage. This will embrace their uses for *food*, *clothing*, *medicine*, etc. Take our own plants first. Show that the *roots* of some

plants are useful; of others, the *seeds*; others, the *leaves*; others, the *fruit*; others, the *bark*, etc. Some few plants of other climates and countries may then be referred to, as *cotton, rice, sugar, tea, coffee*, etc., etc. The relationship of these plants to our own may then be shown; that is, the *families* to which they belong.

REMINISCENCES OF MY EARLY LIFE.

BY ELISHA BROOKS.

As I sit by the open grate watching the fantastic shapes and lurid colors of the fitful fire, and listen to the "rain on the roof," memory is busy with a retrospective view of a life in the wilderness, that seems like a dream. First appear a corn-field in Michigan and two boys working to hoe out their own row before the sun goes down. If they fail, one of the urchins is to lose his knife, and he would sooner spare his right hand. The nine years that have flitted by since they saw the sunlight have failed to darken their white hair. The long loved shadow of the western horizon finds them still distant from the end, and a stern parent demands the knife. * * * * *

The fire settles and the scene changes. 1852 reveals the boys, now eleven years old, driving some cows behind an emigrant train that moves toward California. Their father is in the land of gold, and their mother sets out with all her worldly goods in one wagon, to cross the "plains," and meet him. In the wagon ride her children;—a girl of thirteen, and three boys younger than the aforesaid "white-heads." Now the murky Missouri rolls by them. Rumors fill the air, and dreadful tales of starvation and massacre in the wilderness make each several hair stand up. Lo! this emigrant train turns back

toward the East,—all save that lone wagon with the mother and her six children. The teamster of that wagon feels of his scalp, throws down the whip and turns him to the East.

O! how the winds moan around that solitary family that still looks westward. One of those "whiteheads"—my former self—takes up the whip, and the troubled Missouri fades away toward the rising sun. 'Tis high noon; they halt, while that lone mother goes out among the soughing trees and kneels beside a prostrate trunk. She is talking now with God. Pearly beads roll down her wan, worn features, as the visions of Red Men and savage beasts creeping through the wilderness move in clouds across her mind. A great, gloomy question crowds hard upon her perturbed spirit:—If famine come from the misty realms of the West and feed upon my children, am I a murderer? If savage Indians give my chilren for a prey to the kites and wolves, am I a murderer? If the groaning pestilence sweep ruthlessly over my travel-stained children, and leave them in a nameless grave amidst a trackless waste, am I a murderer? The "shades of evening" fall around; the tree-tops are still; she is assured, but who else has heard it?

My fire is smouldering, darting, flaming in fitful, sympathetic gleams, as those toiling oxen plod drearily along, and the little "white-head" whirls the whip, on the mountains, on the plains, through deserts and storms, in ceaseless monotony; and the tomahawk of the Red man gleams over that solitary family, but, out of pity, rests in air. I think God sent an angel with them from that forest temple where the mother knelt. Six months fly on and the weary pilgrims pitch their tent on this side the Sierras and greet their glad father in the "promised land. Some pitch-pine fagots in the grate reveal in succeeding panorama five of the dreariest years among

those mountains that mortal children ever passed. The very memory comes over me like a winter's storm. One day shall serve as Dromio to all the rest. At three o'clock in the morning those two young urchins are roused from their slumbers to milk the cows—for the dairy is their business—and long before the East grows gray they mount their horses and away to town two miles, with their milk. What though the rain comes down in floods, and Egypt's darkness can be felt! People must eat and the boys must travel. Many a time in the inky blackness of the night you shall see horse and rider stumbling over rocks, clutching wildly at crags, and feeling blindly for the lost trail. Sleep weighs down their eyelids and they ride in very truth a night-mare; and when they wake 'tis only to grasp the bushes or the rain drops and not a soft pillow. O for one hour of peaceful slumber—astride a spectre horse rather than one that breathes.

The sun peeps at them as they wake the town, then return to a cold breakfast and away on foot over the hills to herd the cattle. A lunch in the woods, a tramp of ten or fifteen miles, then home again and away to town with milk at night. Nine o'clock and they get home, a couple of tired children. A warm supper—Ah! warm at last—then sleep goes knitting up the sleeve that's almost raveled out. And three o'clock in the morning comes on faster than light. Of all the hours in the glass of Time let that have my anathema. I have wished it might drop out of being, that I might sleep on, nor hear my father's voice—"Boys, get up; 'tis *three o'clock!*" I hear it yet coming faint and old from that land that has passed into a dream—"Boys, get up, 'tis *three o'clock!*" O, it

"Rolls on the human heart a stone."

The summer's heat and the winter's storms brought no reprieve, for the people must eat and the boys must travel. In all these came no Sabbath. From Monday

morning till Sunday night, week in week out, three hundred and sixty-five days in a year, the wheel went round. Every shower that fell sent its rain on me. Five long, dreary, gloomy years, like the ceaseless drops of rain on the block of granite, have worn channels in my heart and on my brow. Seventeen winters had blown me and washed me, and McGuffey's Third Reader was a book of sealed mysteries. To-day this seems like another life and as unreal as it appears to you; though it is what I have lived, and I have given you only the subdued colors. To-night I hear the rain and it does not wet me, and I sleep in the morning till the sun comes up. As a "cowherd" the boys scouted me, and what the storms have left of me is crusty now. That twin brother is still among those mountains and the little that was earthly of that mother is there too, the God that heard her in the wilerdness has called her spirit home, I know.

READING AS AN INTELLECTUAL PROCESS.

BY E. O. VAILE.

It is true, in the abstract, that words are the signs of ideas; but it is not true that the utterance of words by children, is a sign that they possess the idea. We are taught in childhood upon the assumption that every sentence pronounced leaves its distinct and proper counterpart in our mind. None can know so well as teachers how far this is from being true; and how much more reliable as an indication of full mental perception, tone, inflection, emphasis, feature are, than the recital of the words. There is no fact which so loudly calls for the consideration of teachers as this—that the reading or reciting of words is a very uncertain sign that the idea is lodged in the child's mind. There is need for a new exercise and method in the

teaching of reading; an exercise for teaching pure and mental reading; a means of instruction in which things more reliable than words shall be taken as proof that the idea is grasped; a test of the accuracy of mental perception in which such unreliable evidence shall not be heard. There are devices which partly answer this purpose, but they cannot be described here.

If the real object to be aimed at in teaching reading were apprehended, there would be more use made of maxims, forms, riddles, etc. Every philosophic teacher must perceive their utility. They are of value only as a means of discipline; but there is nothing which so easily and strongly stimulates concentration of thought. They afford an opportunity to judge infallibly whether or not the learner clearly perceives. He is a rare child, indeed, who can read a pun, or any joke, to himself, and whose countenance will not promptly reveal to the slightest observation whether or not he "sees it." This cannot be said of ordinary sentences.

Furthermore, when wit does strike, it strikes with such effect, that the child himself cannot fail to discover whether he is hit or not; he cannot help but feel that he does or does not comprehend the idea. He may not be conscious that he does not clearly get an ordinary thought; but he can hardly remain so in regard to an epigram like this, upon a conceited person. "He will either "see it," or know that he does not "see it."

"The best speculation the market holds forth
To any enlightened lover of self,
Is to buy Tommy up at the price he is worth,
And sell him at that he puts on himself."

Or in regard to any of Lord Bacon's apothegms like this: Once Dionysius gave no ear to the earnest suit of the philosopher Aristippus until the latter fell at the tyrant's feet. A by-stander afterward said to Aristippus, "You a philosopher, and to be so base as to throw yourself at the tyrant's

feet to get a suit?" Aristippus answered, "The fault is not mine, but the fault is in Dionysius, who carries his ears in his feet."

What will so bring them to a focus, and so develop the comprehension of words as from their connection as a riddle like this from Dean Swift, and which Mr. Garvey, in his "Manual of Human Culture," mentions as an illustration upon this point:

"From heaven I fell, though from earth I begin;
No lady alive can show such a skin.
I'm bright as an angel, and light as a feather,
But heavy and dark when you squeeze me together.
Though candor and truth in my aspect I bear,
Yet many poor creatures I help to ensnare.
Though so much of heaven appears in my make,
The foulest impressions I easily take.
My parent and I produce one another,
The mother the daughter, and the daughter the mother."

Of course, such material, of which the active teacher will find abundance, must be used judiciously. The purpose must be to develop, not simply to entertain. Such specimens must be carefully adapted to the capacity of the class. Time must be given, and encouragement to "weigh and consider." Every contrast, comparison, and lurking sense, must be hunted out. No exercise in science or classics can equal this as a sharpener of the wits (to say nothing of wit). The child is made to realize what real comprehension is. He becomes familiar with the sensation which accompanies a clear perception, and is more sensitive to its absence when dealing with more ordinary thoughts. It is in this way that the study of Shakespeare, now being introduced into our high-schools, is going to do more for good common-sense in the comprehension and use of language, than all the grammar taught in a century.

It must be observed that a valuable part of the study of Shakespeare is of the same nature as this of which I have been treating. The study of the poet is largely a process of simply unfreighting words; an exercise in obtaining impressions from language under unfavorable circumstances, but with every thing to stimulate and re-

ward the effort. We cannot find him lowered to the comprehension of young minds, as we can this scattered wit and wisdom, or he would be a perfect substitute for it.

It is pertinent to ask how we know, how we become certain, that we correctly conceive the idea of a word or a sentence. The only answer which can be given is, that our judgment seems to rely upon the general symmetry of the whole thought, a harmony of parts, a connection through and through, which satisfies the mind that it is right. The judgment may err here as well as elsewhere. The accuracy of this mental perception depends wholly upon the general power and activity of the reader. The great thing is, that the reader should obtain a clear, consistent, and reasonable idea, taking into consideration all the circumstances and connections.

But there is a thing which education can invariably secure, and that is a ready consciousness that we do or do not obtain a clear, coherent idea from what we read. It would be unreasonable to demand that education should give us the power to understand all that we read; but it is perfectly reasonable to demand that it should give us the power to discriminate quickly between what we understand and what we do not understand; that it should develop that kind of attention which notifies us at once when we fail to get or comprehend clearly an author's thought. The failure here is one of the saddest features connected with the subject of reading, and, indeed, with the whole matter of common-school education. From the lowest grades to the highest our children read, learn, and recite passages, without comprehending them, and, what is far worse, without realizing their want of comprehension. Any close observer and questioner can satisfy himself of this by a short visit to the school of his own district. This is an unpardonable weakness in the methods of instruction. It is a shame, and

there can be no defense for it. From everything that he reads or learns, the child can, and should get, not necessarily a correct idea, but an idea intelligible and coherent according to his powers; or else he should be perfectly conscious that he gets no such idea.

It has become chronic with college presidents, professors, and examiners generally, to complain of the inability of our youth to speak and write the language. If these wise men were as wise as they ought to be, they would discover that they have not reached the fundamental evil. They must probe deeper if they would reach the bottom. The foundation of the trouble lies in the want of ability, or rather in the want of the habit of understanding language fully.

In spite of all our systematic education, there is a fearful lack of accurate comprehension of good English; and this ever underlies the defect of expression. Of all the young men of whom the complaint is so justly made, I do not believe there is one to be found who has the faculties well developed which are necessary to a good reader. The primary fault is not to be found in the instruction in composition, but in the instruction in reading, and this last includes every subject in which the pupil has a book to use. Show me a person who is a good reader in the real sense of the term, one who has a strong power of attention, quick perception, active association, and other requisites to a fair mental reader, and I will show you a person who will not come far short of reasonable demands in his composition. The one follows the other naturally and invariably. This statement will be fully supported by any class after six months of faithful study of the English classics.

Of this want of comprehension there are several sources which are unwittingly fostered:

- i. While children are compelled to

study and read over and over again the same lessons. The mastery of words is made the end and the only end, in the view of both teacher and pupil, instead of remaining to each as a means only, a subordinate matter. Curiosity, at that age the natural governor of attention, is destroyed; and nine-tenths of our task-reading is performed with an indifference and weakness of thought which do not deserve the name of reading. This will continue so until the reading-matter put into our schools is greatly increased in variety and amount. *Rarely, and only at long intervals, should a lesson be read more than once.* The habit of seeming to read, of performing the physical part, while the mental faculties lie as dead, is easily formed. But it should be resisted. The problem before the primary teacher is this: To keep firmly fixed in the child's mind that the chief thing is the idea, while at the same time he is duly impressed with forms and words. Not only must the tongue utter, but the spirit must *see* what we read.

2. Also, in childhood we are allowed or required to read what we do not understand. A common illustration of one form of this evil occurred recently in the closing exercises of a first-class normal school. The pupil teacher was to exhibit her power by means of a lesson in writing to a large class of bright boys about seven years of age. She had placed upon the blackboard, those four familiar lines—

"Work while you work,
Play while you play," etc.

The writing was certainly most admirable; but the inquiries of the lady-principal revealed the fact that the children had not the least conception of the first two lines. Most, indeed, seemed not to have thought any thing about the meaning. This is a sample, taken, however, from normal training, of the vast number of ways in which as children we are permitted or required to handle words without associating any meaning with them. The same may be

seen in the thoughtless singing of our Sabbath-schools. Thus words become the only things which we think of; and we lose the feelings which accompany clear comprehension, or the want of comprehension. Accustomed to a dull tool, we lose the consciousness that it is dull. But let us rarely have a dull one in our hands, and how intolerable it seems to work with it! Blunt our keen perceptions upon things which we do not or cannot penetrate, and we become insensible to the fact that our instrument is dull, and fails to perform its proper work. It is better, by all means, that the child should attach wrong ideas to all he reads, than that he should form the habit of reading without attaching any ideas. Let any friend of education look upon the stolidity of the average product of our schools, which comes from this mechanical, absolutely thoughtless reading, he cannot but feel that we are producing a large amount of artificial stupidity. I do not say that pupils should *never* be required to read or learn what they do not comprehend; but I do say that such should never be the requisition so long as they are in danger of falling into the habit, of which I speak, nor until they have the habit of reading with the distinct realization that they do comprehend or that they do not.

3. I have said that the power of expression is possible only after a proper development of the capacity to receive impressions. The power and the habit of conveying thought will follow as a consequence of, and in proportion to, the power and the habit of receiving thought. This plainly indicates the plan which should be adopted by any rational system of primary instruction in reading. As a matter of fact, however, the universal practice of teachers is in direct opposition to this principle. It is assumed on all hands that the practice of reading can have no other object than to impart elocutionary skill; to cultivate the power of oral expression.

The great question which governs the method in this branch is not, *Do we understand others?* but, *How to make others understand us.* It is taken for granted that distinctness of articulation, correctness of inflection, etc., surely indicate the presence of the thought within. Pupils are drilled almost daily in reading from the time they are six until they are sixteen, and yet they cannot read. They pass over that which to them is intelligible and that which is not intelligible alike, without the least discrimination. Words, words merely, are their only currency. Professors of elocution, and teachers of reading, do not impart the power we need. They teach us an accomplishment, but neglect our necessity. They make oral reading a high and important end, while it is simply a means, and should so be used. Our children are taught as though a large portion of their existence were to be spent in reading aloud; whereas, probably not one-fiftieth of all the reading done by people in ordinary circumstances is of that kind. For most of us, it is our intellectual business in life to understand, to receive, to unload, as it were, that which others have put aboard. At least ability in this line is what we need infinitely more than the mere art of conveying thought. The number is comparatively small of those who are called upon to create, to bring forth the soul either as orators or writers. The truth is, within the proper and legitimate sphere of school-reading, the cultivation of the organs of speech should be strictly subordinate to the great end of acquiring and retaining thoughts. The voice and ear have just that kind of work to do, and no other, which is performed by the gauge upon the steam-boiler, viz.: to afford a means of judging of the condition of things within—the one of the pressure of steam, the other of the clearness and coherence of ideas. *The paramount object in learning to read is to acquire the power of obtaining from the printed page,*

and by means of the eye only, ideas clearly and quickly. This should be the foremost thing with every teacher. Tone, emphasis, inflection, and general expression are, or should be, only the test-marks to indicate to the teacher whether or not the thought as presented by the printed words is fairly lodged in the mind of the learner. This perfectly subsidiary character of oral reading and the actual comprehension of the thought are almost entirely lost sight of. The subject is taught as a fine art, an art of expression only, the same as music, instead of the art of soul-perceptions, the art of seeing and feeling ideas and sentiments.

Such are some of the faculties which need attention in making good readers, and some existing faults which need correction.—*Popular Science Monthly.*

IMPROVEMENTS IN WRITTEN LANGUAGE—ENGLISH ORTHOGRAPHY, ITS DEFECTS AND THEIR REMEDY.

IN TWO PARTS.—PART ONE.

Extracts from an essay by Z. L. KAY, Teachers' Institute
San Diego, Cal.

Mr. President, Ladies and Gentlemen, Fellow Teachers:—Science, reason, and analogy teach us that where true success in learning is desired, there should be established principles upon which to build.

A glance at any ordinary book or newspaper shows us that our printed language is deficient in this respect; and therefore, might be systematized and improved. By careful analysis it is found to consist of about forty simple elementary sounds. These can be uttered with great precision, force, and elegance, forming one of the finest spoken languages in the world; but when written or printed, they are denoted by the most equivocal characters extant, which, during the lapse of centuries, have given rise to numerous evils.

Egypt, Phœnicia, and several other countries have claimed, and contested for the birthplace of written language as an event conferring the highest national honors.

"Phœnicians first, if ancient fame speak true,
"The sacred mystery of letters knew,
"They first by sounds in various lines designed,
"Expressed the meaning of the thinking mind,
"The power of words in various forms conveyed
"And useful science, everlasting made."

Thus wrote one of their poets; and to a certain extent it may have been true; but the structure of the letters used, and the manner of combining them seems to indicate beyond a doubt, that the art of writing originated with different nations.

THE HEBREWS AND ASSYRIANS originally wrote from right to left, precisely opposite to our mode of writing.

THE GREEKS, from right to left, and from left to right alternately.

THE CHINESE, from the top to the bottom of the page.

THE PHœNICIANS were a manufacturing and commercial people. The Tyrian Purple, and other products of their handicraft were carried to many parts of the known world.

Cadmus, one of their noted men, founded the city of Thebes in Boeotia about the year 1493 B. C. and among other useful things which he communicated to the Greeks, he is said to have taught them alphabetical writing, although it is certain that that art did not come into common use until many centuries after this period.

However well this alphabet may have represented the elementary sounds of the Phœnician language, it was far from perfectly representing those of the Greek, but the Greeks, who were just emerging from barbarism, seem to have been satisfied with it, for they merely rounded a few forms, and adopted a few others, then handed it down to posterity.

This alphabet was still less appropriate for the Latin; yet with a few variations it was adopted by the Romans.

When the Goths, the Vandals, the Huns,

and the various swarms of the North poured into the Roman Empire like locusts, amongst other spoils they seized upon the Roman letters, and appropriated them to their own use. No matter how widely they might differ from the elementary sounds of their own languages they must be used. What did they care, (rude barbarians as they were), what did they care, if the letters did not correspond to the number and quality of the elementary sounds? They, doubtless, thought such insignificant things almost beneath their notice. Each nation being at liberty to vary the Roman alphabet as it pleased, as a natural consequence a great variety of fashions were introduced. Amidst this darkness and confusion, out of a mixture of Saxon, French, Danish, Latin, and Greek elements,

THE ENGLISH LANGUAGE sprang up, and of necessity was written in many different ways. Clerks of Norman descent wrote words part French and part Saxon, while others of Saxon origin puzzled their brains over the hybrid words. Sight of all rules for spelling seemed to be lost. The same words on the same page were often written in different ways.

Even the spelling of the men's names was in doubt. Lord Leicester, it is said had eight different ways to spell his own name; and the Percies spelt theirs in no less than fifteen different styles.

DR. JOHNSON, in speaking of the anomalous formations so frequently found in the English language says: "This uncertainty is most frequent in the vowels, which are so capriciously pronounced and so differently modified by accident or affection * * * that to them little regard is to be shown in the deduction of one language from another; such defects are not errors in orthography, but spots of barbarity."

DR. NOAH WEBSTER, in his Unabridged Dictionary, through Hon. James Hadley, Professor of the Greek language and Literature, in Yale College, after treating at

some length on the changes through which our language has passed, says that "a judicious revision with further alterations of antiquated phraseology" seemed desirable at that time (about 40 years ago). Then he proceeds to declare that the changes already adopted are "far from having made our orthography perfect."

* * * * That "Neither the Anglo-Saxon orthography, nor the Norman French was distinguished for its regularity; but when the two were thrown together the result was a mass of confusion and that the present system contains much of this chaotic character."

That "it contains a multitude of signs for the same sound, and a multitude of sounds for the same sign" and therefore "poorly fulfills the original and proper office of orthography; namely: "To indicate pronunciation."

Then in the most positive terms he refuted the claim which some would set up for it as a guide to etymology, and amongst other things says: "It imposes a needless burden on the native learner." "To a foreigner it seriously aggravates the difficulty of learning the language, and thus restricts the influence of English literature on the mind of the world."

"It is not creditable to the English name, nor accordant to the practical spirit of the English people."

WALKER, SMART, WORCESTER, WEBSTER and other lexicographers have superceded Dr. Johnson, and thus our language has changed, but is still unsettled; for in Worcester's Dictionary nearly 1500 words are given as spelled differently by different authors, many of which are spelled in more than two different ways.

DR. JOHNSON'S PLAN seems to have been, to endeavor by some peculiarity of orthography, to indicate the words borrowed from the different tongues. This could evidently inform only those who know these languages, and where the letters were mixed,

as is often the case, instead of informing, it would have a tendency to confuse them; at the same time, without any reason whatever except custom, he yields to diversities of spelling which are not justified by the derivation, nor the sound of the words. Thus sanctioning the imbecility of the orthography of the semi-civilized hordes of centuries ago.

Other lexicographers, writing for the period in which they live, although they condemned this "antiquated phraseology," have, to a great extent, followed in his wake; until to-day, the teeming millions of enlightened England and free America have the transmission of their thoughts bound in the fetters of the ambiguous orthography of the dark ages of the world!

Although our spoken language has arrived at a high state of refinement; when written or printed it is but slightly removed from its primitive confused, ideographic stage.

It is asserted in "Chambers' Papers for the People" that, "We violate every principle of a sound alphabetical system more outrageously than any other nation whatever. Our characters do not correspond to our articulations, and spelling cannot be matched for irregularity and whimsical caprice."

Sheridan says: "Such is the state of our written language that the darkest hieroglyphics, or the most difficult cyphers ever invented by the art of man, were not better calculated to conceal the sentiments of those who see them from all who do not have the key, than the state of our spelling is to conceal the true pronunciation of our words."

As a proof of these assertions, take a few facts and figures:

In our alphabet we have apparently only twenty-six letters to represent about forty sounds.

To supply the deficiency, combinations

of from two to five letters are employed in unstinted quantities.

Beside this, "*multitudes of sounds*" are often given to the same letters, making the whole so equivocal and devoid of system that the most learned man in America cannot be sure how to pronounce a single word of his own language which he may chance to *see* printed in any ordinary book or paper, but has never heard spoken.

Nor is he sure how to write a single word which he may hear spoken but has never seen written or printed.

True, he may happen on the right sign or sound, but it is mere guess-work, no more than a child could do.

THE LETTER A has eight different sounds, heard in such words as the following: fate, fat, fare, farm, fall, pass, what, many.

E, has 5 sounds; I, 5; O, 8; U, 5; *ough* 8; with nothing whatever to tell the reader which should be employed; c, s, g, t, z, ch, sh, th, eo, and others have from two to seven, each, so that should we reckon the sounds of each letter as separate and distinct from any other, for the twenty-six letters we would have more than 60 sounds— which every school-boy knows cannot be possible without great ambiguity.

Not only this, but a similar sound is often assigned to many different letters, each of which, has many signs.

Illustrations: 1st—*e* in her, *i* in sir, *u* in fur, *y* in myrrh, *o* in word, &c.

2d.—The first sound of *a*, has sixteen different signs, as may be seen in such words as the following: *a* in naming; *a* and *e* in name, *ai* in pain, *aigh* in straight, *oa* in goal, *au* in gauging, *au* and *e* in gauge, *ay* in pray, *aye* in prayed, *ea* in great, *ei* in veil, *eig* in reign, *eigh* in weigh, *eighe* in weighed, (They grabbed out quite a handful that time), *ey* in they, *eye* in conveyed.

Its 2d sound has 3 signs:—*aa* in Isaac, *a* in at, *ai* in plaid.

Its 3d has 6 signs:—*a* and *e* in case, *ai*

in pain, *a* in daring, *aye* in prayer, *e* and *e* in there, *hei* in heir,

Its 4th, 7—*ua* in guard, *ea* in heart, *a* in arm, *oa* in boa, *ah* in ah! *ae* Haerlem, *au* in aunt.

Its 5th has 9—*aw* in awl, *au* in laud, *awe* in awe, *a* in fall; *o* in form, *eo* in George, *augh* in aught, *ough* in bought.

Counting each of these as a single letter—which in fact it is, so far as the child's learning to read is concerned—we have more than forty different ways to represent these five sounds, add to these the different manners of denoting the three other sounds which are occasionally assigned to *a*, and we will have *more than fifty ways to represent the first letter of our alphabet!*

Was anything ever more absurd? In the light of the science and reason of the nineteenth century is here no room for improvement? Must we go on blindly, simply because our fathers did and our teachers said so? Shall we ride on a donkey in preference to a palace car simply because it was the custom to ride donkeys in the days of the Queen of Sheba?

It would be too tedious to give words containing the various signs of the other letters, suffice it to say, that the simple elementary sound E is printed in seventeen different ways, and two of its other sounds are denoted by 14 signs.

The letter I and two of its sounds have 30 different signs.

O and three of its sounds have 33 signs. U has 36.

Adding these, we find that a child has to learn about 180 equivocal signs before he is master of these five(?) vowels!

Is not our common alphabet deceptive?

Can we expect a rigid adherence to truth in children, who from their very first school days are continually compelled to study deceptive lessons?

Do not the first lessons sink deepest into a child's heart?

Are they not most vividly remembered?

There is also a "multitude" of signs for the consonants. F has 7, G 10, J 5, K 7, C 13, D 4, L 6, M 4, N 7, P 3, R 7, S 11, T 7, V 4, X 3, Y 4, Z 9, Ch 2, Ng 3, Sh 9, Th 7, Zh 5, Oi 2, Ou 6, and all the others two or more, each, so that instead of our alphabet consisting of 26 letters (as is supposed by many,) it is made up of more than three hundred! Every one of which is equivocal and false!

EDITORIAL DEPARTMENT.

On County Superintendencies.

No system of education, however perfect, can be of much practical utility unless its details are fully carried out. To accomplish this object, no means have been found more effectual than a thorough system of inspection and supervision. What such a system is capable of doing can be seen in the districts of the Dominion of Canada, where the superintendents, or inspectors, as they are called, occupy the whole of their time in visiting schools, criticising the teachers' methods, suggesting improvements, and bringing about a general uniformity in instruction. The effects of this system are evident. Nowhere on the American Continent are the schools better conducted or the pupils better taught.

To us it appears that the aim in creating the office of County Superintendent was to accomplish precisely these results. Yet so far from regarding the office with favor, several successive legislatures have seriously contemplated abolishing it. And why? Because legislators believed the office to be a sinecure; something for which there was no demand,—where there were no duties to perform. Yet, this is not so. Our excellent educational system is hampered for want of efficient supervision over the schools it creates and sustains. And in no wise are the County Superintendents to blame for this. Indeed, a more energetic,

capable set of men it would be difficult to find. The obstacle to progress is simply this—insufficient remuneration. In perhaps six or seven counties of the State do County Superintendents receive a salary sufficient for their needs; in the remainder, the stipend is too small to deserve consideration. The Superintendent teaches or engages in some other occupation, and the salary of the superintendency is an extra and a small one at that. His time does not permit more than the most cursory and superficial supervision of the schools of his county.

The remedy for all this is obvious. It is *not* to abolish the office, but to establish it the more firmly. A Superintendent of schools in many counties of this State is considered amply paid with \$120 a year. So, he is—too well paid, perhaps. But what reflecting friend of our free school system can deny, that it will redound to the efficiency of the system, better promoting the ends for which it was designed, if \$1200 be paid, instead of one-tenth that sum? The work of supervision must be done. Is it not best that it should be well done? Teachers and friends of education generally should see to it, that members of the next legislature are thoroughly familiarized with the educational needs of the various counties. And among these needs, we can see none more urgent than the institution of a complete system of county school supervision, by the payment of adequate living salaries to the County Superintendents.

Technical Training.

We suggested, in our March number, the organization of an elementary technical school in one of the vacant school buildings in San Francisco. We observe a general awakening of public attention to this important subject. The Grangers will hold an Educational Convention early in April, and the matter will probably be thoroughly considered by them. We see, also, that Gen. A. M. Winn, to whom great credit is due for the success of the Training Ship project, has introduced the matter of practical education to the Mechanics' Executive Council, of which he is President.

With all proper deference to the many able men engaged in elucidating the problem of the best education, we believe the suggestion made by us last month, to be eminently practical, and precisely the solution to the oft reiterated inquiry, "What shall we do with our boys and girls?"

Is not the experiment, we suggested, of establishing a few elementary classes, the proper course to pursue?

To show how earnest is the thought which this subject of practical education has awakened in this community, we reprint an extract from an able editorial in the *Daily Morning Call*.

In the subject of technical education Germany has shown great interest. Many schools have been established throughout the Empire, both through the liberality of the Government and the generosity of private individuals, at which young persons who are yet learning a trade may obtain instruction in the elements of those arts and sciences which are necessary for a thorough understanding of their work. They are encouraged and stimulated to make use of the advantages offered them by the fact that no one can become a foreman, or attain any other advanced position in his trade, without passing certain examinations before a board of examiners. Young men go from the work-shop to the evening schools, where they learn the scientific principles which underlie the work upon which they are engaged. Their masters very often become their teachers, and thus education and bread-earning go hand in hand, rendering the former more efficacious and elevating the latter. The want of opportunity to

learn rather than the lack of desire, doubtless condemns many men to one monotonous round of labor from which a little assistance in helping him to educate himself would save him. The organization of schools, on the plan of those in Germany, among our working population would, we think, give great returns. Among the working classes of the world we can find none more intelligent than the American mechanic, and with the opportunities placed before him, which are enjoyed by German artisans, he would soon defy the rivalry of all other workmen of the globe.

Not Good Advice.

Upon the appearance of our first number, undoubtedly sincere friends urged us to obtain subscriptions from City Boards of Education. We ventured to dissent from them and argued that if the JOURNAL proved deserving of support, every teacher, worthy of the name in California, would become a subscriber. And the event has quite generally justified our expectations. Names have come to us from all parts of the State. One peculiarity may always be noticed in regard to many of these names: they have been heard of before; they are invariably the names of true teachers—not make-believes.

We have frequently said that the merits of the JOURNAL would make it succeed or fail; so we hope, that every educator, who, reading these lines, believes that the JOURNAL sustains the promise of the first issue, will become an immediate subscriber. And we trust, moreover, that every reader, who has already, by subscribing, shown himself not so much our friend, as the friend of education, will bestir himself to influence others to do likewise. The way in which we propose to make the JOURNAL a success, is to make it first-class in every respect—interesting, instructive, and practical. We hope every teacher in the State will consider himself not only a subscriber, but *an agent* for the JOURNAL, without further or more special invitation. The only way to make this JOURNAL truly a representative of the great body of teachers in California, is to give it energetic and fitting support. We await a general response from the teachers of the whole State. Shall we get it?

Mr Kay's Article on English Orthography.

We call particular attention to the fine article on "ENGLISH ORTHOGRAPHY," by Z. L. Kay of San Diego, in this number of the JOURNAL. It is a carefully considered attempt to direct the attention of teachers to some of the absurdities of the English tongue. And Mr. Kay does not devote his time and energies merely to the task of tearing down; he suggests the remedy. Teachers, individually, have had but little influence in leading or diverting the current of events or opinions. If they would but lay aside their petty jealousies and indifference, be more social in their habits, and work together as a class, their influence in society would be infinitely greater.

GENERAL NOTES.

TEACHERS' SALARIES IN NEW YORK.—The salaries of primary teachers in New York City have been cut down ten per cent. It appears that the matter of teachers' salaries in that city, together with other expenditures of the municipal government, is under the control of a "Board of Apportionment." This sage body concluded that, as retrenchment was absolutely necessary in the financial management of the government of New York, the proper place to commence would be with the school teachers. And, as the primary teachers are all women, and have the least influence at ward meetings, the safest plan would be to reduce those already paid but \$600 a year, though male and female principals get from \$2000 to \$3000. Despite the protests of the Board of Education, a reduction of ten per cent. was made, and while waste and extravagance still exist in many departments of the city government, a fine showing of retrenchment will be made at the expense of the primary teachers.

EDUCATION IN EGYPT.—The Khedive of Egypt appears to comprehend the importance of general education; and hence encourages the opening of schools throughout his kingdom. He has appointed a Minister of Education, who makes the following report on the subject of education in Egypt: There are, at present, 140,977 pupils under instruction. Of these, 111,803 are in primary Arab schools, 15,335 in Mosque schools, 1385 are educated by Government, 8961 by ministers and religious communities, and 2960 in the municipal schools. The principal text book is the Koran; and with the exception of the rudiments of arithmetic and a little writing, this includes the whole of the course of study. In the modern Egyptian tongue, as in Hebrew and some other ancient languages, the student reads and writes from right to left.

THAT SHOWER OF FLESH.—Many of our readers, doubtless, remember accounts in the newspapers of a wonderful shower of flesh in Kentucky. And a short time since, we remember hearing of a similar occurrence near San Jose, in this State. It appears, upon investigation, that it was not flesh but the flesh-colored Nostoc, the *N. carneum* of the botanist which has been seen in those localities. This plant, in warm, moist weather and in a marshy soil will grow with extraordinary rapidity. In a few hours, miles of territory will be covered with flesh-appearing plants, from three to four inches long. Fowls eat this plant with great avidity, wherever they can obtain it.

ERRORS OF PRONUNCIATION.—It is possible that some one who reads the title of this article may find himself guilty of pronouncing the ci as sh in shun. I find that my lady friend, who is very precise in her language, will persist in accenting "etiquette" on the first instead of the last syllable. My good minister, who has the greatest aversion to anything wrong, was greatly surprised when I mildly suggested to him that "aspirant" should be accented on the penult, while my musical niece mortified me the other

day by pronouncing "finale" in two syllables. I heard my geological friend explaining the "subsidence" of the earth's crust, but he should have accented the second instead of the first syllable. The same mistake happened the other day to my friend, the President of the reform society, who spoke of the "vagaries" of certain people by accenting the first instead of the second syllable. He also announced that I would deliver an "address" that evening, but I knew it was not polite to tell him to accent the last syllable. My boy says he left school at "recess," accenting the first syllable, and he was loth to believe that, whatever the meaning of the word, it should be accented on the final syllable. Then my friend, the President of the debating club, who is a great student of "Cushing's Manual," tells us that a motion to adjourn takes the "precedence," by accenting the first instead of the second syllable. My other lady friend says that she lives in a house having a "cupelow." She should consult the dictionary for that word. But I will close by remarking that my legal friend, who is very scholarly, always accents "coadjutor" on the second instead of the third, where it rightly belongs.—*New England Journal of Education.*

IN Italy, the amount annually expended for education is about four and a half millions of dollars. This sum includes nearly two millions for the support of Universities and institutes connected therewith. Normal schools cost one-half a million. There are nearly twenty-five thousand students in the universities, Gymnasia, Technical and National boarding schools. Though these schools are all supported by the government, Italy has not had, until this year, anything like a free school system. Steps are now being taken to establish free schools in all the cities and villages of the kingdom. It is estimated that sixty per cent. of the inhabitants of that sunny land can neither read nor write.

FRANCE now spends 71,000,000 francs for primary instruction, of which a part is paid by the State and the remainder by the communes and the parents of the pupils. This is more than is spent for that purpose by any other nation of Continental Europe. In the proportion of scholars to the population, Germany surpasses France, as the former has fifteen per cent. to thirteen per cent. in the latter. In France primary instruction is obligatory.

IN 1875 there were in Chili 1,284 public and private elementary schools, giving instruc-

tion to 85,442 children. There are twenty-four higher schools under State control, and, in addition, in the cities, good English and German schools. The University at Santiago has a faculty of thirty-five professors. There is a Military and a Naval and four Normal schools.

A LAW has been passed in Germany forbidding the construction of school-rooms with windows on both sides of the room. It is said to be proven that rooms so lighted are injurious to the eyes.

THE great national library of Italy, Vittorio Emanuele has been thrown open for public use. It contains 400,000 volumes, and is rapidly increasing its collection.

ITEMS FROM COUNTIES.

SAN FRANCISCO COUNTY.

The schools had their usual Spring vacation from the 16th to the 26th of March.

There are four or five Kindergarten schools in San Francisco, but none connected with the free schools.

There were 131 applicants before the City Board of Examination, on March 7th, 8th, and 9th. Of this number, 38 obtained certificates.

There are 42,287 children, between the ages of six and seventeen years in San Francisco, of which number 34,029 are enrolled on public school registers, about 6,655 are supposed to be in attendance at private schools, and over 2,000 do not attend any school. There are 1,961 more boys than girls attending school.

Readers of English history probably remember Flora Macdonald, who at the risk of life, and after encountering innumerable hardships, effected the escape of the Pretender, Charles Stuart, from Scotland, after the battle of Culloden. A lineal descendant of Flora Macdonald, in the person of Miss Flora Macdonald Shearer, is teaching as assistant in the South Cosmopolitan Grammar School of this city.

In the week preceding the March vacation, the grammar and primary classes were examined in arithmetic and composition. In the former study, pupils were furnished with but one sheet of paper on which they were required to do all their work with lead pencil. The results were generally satisfactory, though it was clearly demon-

strated that pupils are not thoroughly taught in the fundamental rules. The greatest number of failures was in addition and multiplication.

Prof. A. Herbst, Principal of the South Cosmopolitan Grammar School, received a well-merited tribute to eminent capacity and efficiency, in the shape of an unsolicited increase of salary. The advance made early in March, was \$300 a year, making his salary \$2,700 a year. This is the highest salary paid to any teacher in San Francisco, with the exception of the principals of the two High Schools and of the Lincoln Grammar School.

The corps of instructors in this city numbers 574—67 are males, and 507 are females. They are divided into 49 principals of High, Grammar, and Primary schools; 19 vice-principals, 230 teachers in Grammar schools, 250 in Primary schools, 32 in evening schools; 19 teaching French, German, Latin, and Greek; 4, Drawing; and 6, Music. The total expense of the Department for 1875-76 were \$867,754.89. The estimated expenses for 1876-77 are about \$890,000.

At a meeting of the Board of Education, held March 21, Mr. Scheline presented an exceedingly interesting and able report on the necessity of introducing a thorough system of physical training into the city schools. The report detailed at length the necessities of a thorough gymnastic system in the public schools where mental health is so dependent upon bodily vigor; and it mapped out a programme of exercises, suggesting, in conclusion, that the teachers be first instructed in the rudiments, so that they in turn may train the pupils, thereby saving the expense of a separate corps of gymnastic teachers. The report was referred to the Committee on Rules and Regulations.

A literary and social entertainment was given on the 16th of March, by the Teachers' Aid Society, at Lincoln Hall, to the teachers of San Francisco and their friends. Mrs. L. K. Burke, the President of the Society, in a few preliminary remarks introduced Dr. A. A. O'Neill, a member of the Board of Education, who gave a short account of the object and standing of the Society, and recommended both male and female teachers to join. He stated further that the membership of the Society is about ninety, and that there is over \$3,000 in the treasury. He then introduced Mr. Henry Senger of the South Cosmopolitan Grammar School, who entertained

the audience, for a time, with some fine instrumental music. Miss B. Cox gave a recitation. Miss F. Spanhaeke sang "Waiting for the Tide," and in answer to an enthusiastic *encore* gave the "Maid of Dundee," in excellent style. John Swett read a short essay in which he scored teachers for some characteristic traits and failings. A quartette by Washington Elliott, W. E. Price, A. L. Mann and S. Sturges, was finely rendered and *encored*. A debate followed, on the subject "Which has the greatest influence in forming character, Home or School?" Affirmative—J. K. Wilson and Miss Kate Kennedy; negative—A. L. Mann and George Beanston. The latter gentleman supplied the place of Prof. E. Knowlton, and in a happy impromptu speech, made the hit of the evening. The question was well debated, and was decided by the audience in favor of "Home." After the debate, Miss Roper sang, "Sing, Sweet Bird," in a style which elicited a hearty *encore*. The hall was then cleared for dancing which was thoroughly enjoyed by all present, until one o'clock. This entertainment was in the opinion of all, one of the most enjoyable ever participated in by the teachers of San Francisco. The audience was large, comfortably filling Lincoln Hall, and the utmost sociability and enjoyment animated all present. The Teachers' Aid Society, and particularly the committee who made up the programme, are entitled to the greatest credit for having contrived a pleasant and efficacious means of thawing out the San Francisco teachers, and introducing a kindlier and more professional feeling among them. The next entertainment, will, we doubt not, be welcomed with feelings of anticipated pleasure.

ALAMEDA COUNTY.

There are eighty-seven teachers in the Oakland school department; their salaries average nearly \$8,000 per month.

The amount due Alameda County from the State School Fund is \$74,000, the largest sum in the State next to San Francisco.

Mrs. L. Hinckley, formerly Assistant in one of the Oakland schools, has assumed the principalship of the Mowry Landing school.

The Public schools at Washington Corners and Niles have been closed for the greater part of March, owing to the prevalence of diphtheria.

County Superintendent Lynch has been busy for the past month in precisely mapping out the boundaries of the school districts of Alameda County.

On March 23d, the undergraduates of the University of California assembled for the celebration of "Charter Day." Addresses were made by Lewis W. Brown, class of '77, and Edgar C. Sutcliffe, class of '78 and also by Prof. E. R. Sill, and John H. Wheeler.

Dr. Dio Lewis, well known in California as well as in every other State of the Union, as an educator in the best sense of the word, is at present making his home in Oakland. He lectured there on Monday, on "Our Girls."

Mr. Kilpatrick, the Principal of the Grammar School at San Leandro, has introduced military drill and discipline into that school. The boys have been divided into four military companies, and are said to display surprising proficiency in military movements. The intention is to furnish the first company, composed of the larger boys, with muskets. The whole school, under Mr. Kilpatrick's management, is in a high state of efficiency.

The new members elected to serve on the Board of Education of Oakland were installed a week ago. They are Messrs. Redington, Fox, Hobert, and Lynch. Mr. Swett, of East Oakland, a member of the old Board was re-elected, making this his ninth or tenth term. The Finance Committee of the retiring Board presented a highly complimentary report on the accurate and business-like manner in which they found the accounts and books of Superintendent Campbell. Dr. Cole, one of the hold over members, was re-elected President.

The people of Centreville, last autumn, voted to build a new school-house, to replace the ancient and dilapidated structure now dignified by that name; but a few old fossils, who think what was good enough for their grandfathers, will do for their children, resisted the collection of the tax. They found a flaw in the election, and though two-thirds of the tax had been paid in, carried the matter into court and gained their point on a legal technicality. The suit was not decided, however, until the building was more than half finished. The Trustees, supported by the great majority of the people, thereupon determined to have a good school-house in spite of the malcontents. A voluntary subscription, has, thereupon, been paid in, which, with some money in the Treasury, will give Centreville one of the handsomest little school-houses in the County.

One of the model schools of California is at the Mission San Jose, in this county. The school room, a very commodious one, is covered in the aisles with drugget. The walls are hung with chromos and lithographs; charts and maps are seen in abundance; and globes and other useful apparatus are not wanting. Near the teacher's platform is a fine organ, which appears to be constantly used. On tasteful brackets around the room, and on the window-sills, are flower-pots, making an exceedingly attractive display. Miss E. H. Hilton, the Principal of the school, secured these tasteful surroundings without the cost of a dollar to the district. She has had charge of the school over four years, and, by means of school exhibitions, which she has made very attractive and popular, she has converted a bare room into one, glowing with color, and filled with beautiful and interesting objects.

The children would be stupid, indeed, who did not learn amid these surroundings. It is needless to say that their progress has always been rapid and eminently satisfactory to the entire community.

SANTA BARBARA COUNTY.

Not only the free schools, but private institutions flourish in Santa Barbara. In addition to Santa Barbara College, which is one of the most important academic institutions of the Coast, several smaller private schools are well patronized.

There are sixteen school districts in this County, with 2,706 children of school age. The amount of State school

money to which these are entitled, is \$17,550.73. The County Superintendent is G. E. Thurmond. The largest district is the City of Santa Barbara, which has over 1,200 children.

There were nine applicants for teachers' certificates before the County Board of Examination; four were successful. The members of the Board are Prof. Snow, Mrs. Foster, Mrs. Thomas, and Prof. J. C. Oliver. The latter has been a successful and popular teacher in Napa and Santa Clara counties.

Lompoc, a town not yet three years old, has just completed a school-house costing \$7,000. There are 328 census children in the town, and the County Treasury has more than \$3,500 to the credit of the district. Lompoc is a temperance town, and hence its school facilities are unsurpassed by any place of its size in California.

SOLANO COUNTY.

C. B. Towle, known as one of the most successful and cultured educators of the State, and lately in the Santa Clara High School, occupies an equally prominent position in Vallejo.

From correspondence from Benicia, we judge that the schools there are excellently organized and well taught. The following items will probably interest teachers, and may be of value to many:

Wm. Crowhurst, well and favorably known in San Francisco and the Bay Counties, has for some years occupied a prominent position in the Vallejo School Department. He is a successful and popular teacher.

The Benicia school consists of four departments—a High, Grammar, Intermediate, and Primary. The Principal of the school, which numbers over two hundred pupils, is A. W. Sutphen. He teaches the High School; his assistant in the Grammar department is Miss C. D. Baker; in the Intermediate, Miss Garretson; in the Primary, Miss Driscoll. The trustees, Messrs. McDonell, Dalton, and Berry take unusual interest in school affairs; they have provided the school with a fine library, and, through the influence of County Superintendent Childs, have secured an excellent "German physiological apparatus." A printing press and type have also been bought by them for the use of the pupils, who will soon issue the "*Benicia School Journal*." An interesting fact in connection with this school, which in every way appears a model one, is that it is located in the old Capitol building of the State; and the Senate Chamber, in which a piano is placed, is now used for an assembly room.

LOS ANGELES COUNTY.

A public meeting was held in Downey City, in March, at which steps were taken to engage a competent teacher, and organize a select school.

The public schools of the City of Los Angeles have been closed until the first Monday in April. Cause—prevalence of small-pox in that city.

County Superintendent Saxon has apportioned \$62,437.30, Los Angeles' share of the State School Fund, among the various districts of that County.

Among the prominent business men of Los Angeles, we see the name of John Brierly, formerly an efficient teacher and Superintendent of Santa Clara County.

There were twenty-one applicants for certificates before the County Board. Of this number, one obtained a first grade, two a second grade, and three a third grade certificate.

Miss Marvedell has been lecturing in Los Angeles City, on the Kindergarten system, and friends of education there, propose forming an association to disseminate the principles of Kindergarten culture.

CALAVERAS COUNTY.

The average salary paid to male teachers is \$72, and to female teachers, \$60.

A new school-house is being built in the Spring Valley district in the place of the one destroyed by fire in November.

The total valuation of school property is \$24,000, and the most noteworthy school-houses are in Murphys and Cazanche.

The San Andreas district is sadly in need of a new school-house, and the trustees purpose building one during the Summer months.

The number of census children in the County is 2123, of which number seven are Indian children, and two are Negro children. 451 children have not attended any school.

Within the last year a new school district has been organized near Bear Mountain, with a census roll of thirty-one. This makes the number of school districts in the county thirty-five, four of which have two schools each, making in all thirty-nine schools.

SANTA CLARA COUNTY.

Vacation in the California State Normal School at San Jose, begins March 29th.

The public schools of San Jose are closed for a two weeks' vacation, ending April 2d.

Santa Clara County with 8,903, census children of school age, gets \$59,650.10 from the State School Fund.

A new school-house has been finished and is ready for occupancy in the Second Ward of the city of Gilroy.

A musical and social entertainment was given on Washington's Birthday, by the students at the University of the Pacific, at Santa Clara. It was a very enjoyable affair.

The Board of Examination of San Jose granted, at the March examination, two first grade certificates, and one third grade. The County Board, to eighty-five applicants, granted two first grade, six second, and eight third grade certificates.

SACRAMENTO COUNTY.

There were but twenty-three applicants for certificates before the County Board. No first grades were granted, but three second and one third grade certificate.

In one locality in this county we hear of a genuine school revival; this is at Michigan Bar. The school at that little place, taught by J. W. Johnson, is in an unusually efficient condition. The attendance and enthusiasm of the pupils has been so thoroughly aroused that parents and trustees are taking the greatest interest in everything pertaining to school affairs.

SAN MATEO COUNTY.

There are twenty-seven school districts in this county, employing from thirty-eight to forty teachers.

A new school-house has lately been erected at Woodside, and two others are to be erected this year in other parts of the County.

SAN DIEGO COUNTY.

There are 1667 children drawing public money in this County. The State apportionment amounted to \$11,160.90.

Examination Papers.

We propose publishing the questions used for Teachers' Examinations, each quarter. Owing to lack of space, we give only Arithmetic, Grammar, and spelling in this issue. The other papers will be given next month.—[ED. JOURNAL.

SPELLING.—100.

[One credit each.]

Inflame, sale, vile, fatigue, erase, daily, ventilate, tranquil, vaccinate, separate, refer, belief, remit, differ, exhibit, condemn, mortgage, victuals, total, monosyllable, symmetry, lose, hark, balance, discipline villain, fatigued, erased, dailies, ventilated, tranquillity, vaccination, separation, referred, believing, remitting, differing, exonerate, condemned, mortgagor, victualing, totally, dissyllable, symmetrical, loose, hearken, balancing, disciplining, diligent, sofa, inflammation, unsalable, vilifying, fatiguing, erasing, diurnal, ventilation, tranquilize, vaccinated inseparable, reference, unbeliever, remittance, difference, exorbitant, condemning, mortgagee, edible, teetotalers, trisyllable, symmetrically, loosen, hearing, unbalanced, undisciplined, diligently, lounge.

[Nineteen contractions. One credit each.]

Write all the proper contractions for the following expressions:

1. It is not.
2. It is.
3. Cannot.
4. Will not.
5. Is not.
6. Am not.
7. He does not.
8. I do not.
9. I am not.
10. I will.
11. I will not.
12. He has not.
13. We were not.
14. Are you not.
15. We shall not.
16. Ever.
17. Never.
18. Until.
19. Received.

GRAMMAR. 100.

In the following questions, "construction" does not call for the full parsing of the word; but for the case of nouns, only the case; the voice and transitive or intransitive character of verbs, and the office in the sentence of infinitives and participles; and, in all cases the related words, and the nature of the relation, must be given.]

"She swore, in faith, 'twas strange, 'twas passing strange; 'Twas pitiful; 'twas wondrous pitiful; She wished she had not heard it; yet she wished That Heaven had made her such a man."

1. Analyze the first line of the above.
2. Construction of *wished*.
3. What part of speech is *wondrous*?
4. Construction of *man* and *her*.
5. In the sentence, "My son give me thine heart," what is the construction of *son*, *give* and *me*?

Sentence: "Many there are, public affairs being in their present perplexed state, who are truly unable to decide what is right and just."

6. Construction of *there* and *may*.
7. Construction of *affairs* and *what*.
8. Construction of *to decide*.

Sentence:

"The wall must be crumbled, the stones decayed
To pleasure his dainty whims."

9. Construction of *decayed*.
10. Construction of *to pleasure*.
11. Write a complex sentence having a subjunctive clause.
12. Write a sentence having an infinitive phrase for its subject.
13. Write a sentence having a present participle for its subject.

24. Write the nominative plural of *rebus*, *stratum*, *conscience*, *Jones*, *sheep*, *cross*.
 25. Write the nominative plural of A, 7, ?, —.
 26. Write the possessive of *Moses*, *Mr. Cross*, *horses*, *conscience*, *Mary*.
 Sentence:
 "It was April the third, and quite soft were the skies,
 That it might be inferred, that Ah Sin was, likewise."
 27. Correct false syntax.
 28. For what does *it*, in the second line, stand?
 29. Parse *that*.
 Sentence: "Until the whole Round Table, man by man,
 had fallen."
 30. Construction of the phrase "man by man."

ARITHMETIC.—100.

Ten questions, five credits each.

1. What will be the cost of plastering a room 16 1-2 by 18 1-2 feet, by 10 1-2 feet high, at 30 cents per square yard?
 2. How many small cubes whose edges are 2 inches, may be cut out of a cube whose edges are 36 inches?
 3. Multiply .3225 by .0001, and divide product by .215.
 4. Find the sum, difference, product and quotient of 278 and 7-12.
 5. What is the width of the Torrid Zone in statute miles?

6. Find the prime factors, L. C. M. and G. C. D. of 5, 7, 16, 28, 48, and 21.

7. What is 1-2 of 7 mo. 1 wk. 3 da. 5 min. 9 sec?
 8. Find the commercial discount on a bill of goods for \$1,825.75, 60 days credit, three per cent. off for cash.
 9. How many minutes in the year of the Declaration of Independence?

10. Find the board measurement of 200 planks, each 18 feet long, 15 inches wide and 2 1-2 inches thick.

Five questions, ten credits each.

11. Find the surface of a circular table 3 1-2 feet in diameter.

12. If I buy a span of horses for 10 per cent. less than value, and then sell them at 10 per cent. more than their value, what per cent do I gain?

13. What is the difference between the square and the square root of 1.44?

14. (1.) Write in due form a promissory note payable to John Doe, for the sum of \$1,250, 10 per cent. interest, dated Feb. 17th, 1874. [5 credits.]

- (2.) Find the interest up to date of March 1st, 1874. [5 credits.]

15. How many cubic feet of iron will be required to make 20,000 12-inch solid shot?

BOYS' AND GIRLS' DEPARTMENT.

Edited by Mrs. L. A. K. Clappe.

Fizz and Freeze.

Once upon a time, a great king lived at the North Pole—up there among the ice and snow, just where no one ventures to go now-a-days, not even the ships—and this king's name was Frigimand.

What a cross, selfish, hateful old fellow he was! and how he abused his people! What he liked best was *eating*, and he was always thinking of his dinner or his supper, or scolding his poor cook because he couldn't think of something new to put on his table.

This cook had a hard time, I can tell you. He was a queer-looking dwarf, and he had six sons, all dwarfs like himself, who had nothing to do but assist their father. So one made the pies, and another made the cake, and still another pared the potatoes and turnips, while some kept

the fire going and washed the dishes, and all were busy as bees. Their father, poor old Skimantaste, was terribly afraid of the king, because, whenever his food didn't suit him, he always threatened to have the old man burned alive, and the cook knew well that his royal majesty would think nothing of carrying his threats into execution.

At last, one day when Frigimand had been in a worse humor than usual, and had grumbled and fretted till every one about the court had wished themselves away, he suddenly concluded to travel. Not that he wanted to learn anything, or expected to come back any wiser or better than when he went, but merely because his time hung heavily on his hands, and he knew not how to employ it at home. So he made his preparations, gave a parting scolding to Skimantaste, and set off, taking no one with him, not even a newspaper reporter.

After a long and tedious journey, he arrived in the city of New York one morning in July, and a very hot, unpleasant morning it was. Frigimand was almost melted. He had never known what warm weather was before, and he was almost afraid to go about the city at all.

The third day after his arrival he ventured out to take a walk, and, going along Broadway, he stopped to look in at all the shops where he saw any thing to eat or drink.

The first place he stopped at was a large drug store, where a number of people were drinking soda-water. Seeing how it foamed and sparkled, Frigimand stepped up to the counter and asked for a glass. That was so cool and refreshing that he took another, and another, until he had drank six glasses of soda-water, and had tried as many kinds of sirup. Then, having paid for this delicious new drink, he took out his note-book and wrote "FIZZ," which he thought would best describe it.

Going a little further, he came to a large ice-cream saloon, and here again he stopped to look. He saw groups of people sitting at little tables, eating something which looked very nice, so he went in and took a seat. A colored waiter rushed up to him with a book, which he put down on the table before him, and then stood waiting to receive his order. Now Frigimand hated books. The very sight of one made him think of his dull school-days and his unlearned lessons. So he pushed this one away in a fright, and said, "No, no; I want some of *that!*" pointing to a plate which had just been placed before a lady near by.

This ice-cream looked so white, like the snow in his home, with a little pink tinge on the top, that he was quite inclined to get up and snatch the plate, like a greedy tyrant as he was.

The waiter nodded, and presently he brought him some ice-cream, which Frigimand ate just as quickly as he could swallow, and then called for some more. He went on taking one plateful after another until he had eaten twelve. Then he took out his note-book again and wrote "FREEZE" on the next page, because it was so very cold.

Well, Frigimand staid one month in New York, and he spent nearly the whole of the time in consuming large quantities of *Fizz* and *Freeze*, until at last he made himself sick, and was forced to set sail for home.

On the voyage he could talk of nothing else but *Fizz* and *Freeze*, and no sooner had he landed

than he sent into the kitchen for old Skimantaste, and told him that he must have these new dainties every day.

"But I don't know how to make them, your Majesty," said the trembling cook.

"Then find out!" roared Frigimand, in a passion. "And remember this—if you don't give them to me to-morrow, you will surely be roasted alive."

Back into the kitchen ran the poor old fellow, crying and bemoaning his hard fate; in from the garden, where they were gathering vegetables for dinner, ran the six sons, eager to know what new trouble had befallen their father. The story was soon told, and after consulting together, the six sons went to look for the king, and beg for their father's life.

They found that unreasonable monarch in a very bad humor. At first he would not listen to anything they said; but at last the oldest and wisest of the sons spoke thus:

"Your most gracious Majesty, I have a plan to propose. If you will send our father to visit this wonderful city of which you speak, that he may learn there how to prepare these delicacies for your pleasure, will it not be a better way to procure them than merely to burn him? For if your Majesty will condescend to think, your Majesty will see that a live cook is more useful than a dead one, even if he be roasted."

This argument convinced Frigimand. He graciously consented that old Skimantaste should go on a voyage of discovery. So the old man set out as soon as he could get ready, and after a tedious passage he too reached the city of New York, but quite late in the fall.

He soon found the shops where the ice-cream and soda-water were sold, and at once he began to ask for recipes, and to learn how they were put together.

Soon he bought all the necessary materials and loaded his ship with them—barrels of sugar, baskets of eggs, bags of salt, essences for flavoring, cans of condensed milk, and a monstrous ice-cream freezer, the largest he could find. Also he bought a soda-water fountain, and all the things necessary for making soda-water, such as gallons of sarsaparilla and lemon syrup, great hogheads of carbonic acid gas, and so on until the ship was loaded.

Then he sailed away home again, and arrived there safely one morning, and the joyful news of his return was carried at once to King Frigimand.

Frigimand was really delighted. He went to

see the vessel unloaded, and the barrels and boxes carried up to the royal kitchen; and he was as impatient as a child until everything was unpacked and Skimantaste was fairly at work.

The soda-water fountain was carried into the king's library, and all the books were tumbled out to make room for it. The ice-cream freezer was set up in the court-yard of the palace, the cream was made ready, and the six sons were set at work to keep it turning in the tub until Skimantaste said it was frozen enough.

So for a time all went on well. The busy Skimantaste ran back and forth, first to inspect the soda-water, then to look at the cream, and Frigimand walked up and down, almost smiling, and wonderfully patient.

By-and-by the old cook opened the freezer to taste the cream, and he handed the spoon to one of his sons afterward, which was a very unlucky thing. The naughty little fellow licked the spoon, and was charmed. He whispered to his brothers, and set them all wishing for a taste.

Presently one more daring than the rest, opened the freezer and took out some on his finger. Immediately all the others thrust their fingers in, and began to dance about, delighted with the flavor.

So they went on taking larger mouthfuls, and getting deeper into the ice-cream, until they heard their father's step; then they all worked very busily; but no sooner were they alone again than they began tasting more boldly than ever, until they had entirely emptied the freezer.

At this moment the great bell rang to announce that the king's dinner was served, and Frigimand rushed to the dining-room at its very first stroke. In a very short time he had cleared all the dishes placed before him, and then called out to Skimantaste to bring some of the long-wished-for Freeze.

The triumphant cook ran out to the court-yard, and, lifting the lid of the freezer, found it entirely empty!" He was so frightened that he just stood staring, never speaking a word, until Frigimand, out of patience at his delay, came running after to see if anything was wrong.

When he stood by his terrified cook and looked into the empty freezer, his rage was frightful. He snatched the large china dish from Skimantaste's trembling hand and broke it over his head, then he kicked the freezer and the tub in which it stood, and upsetting them both, scattered the great lumps all over the kingdom, and many of them descended into the northern sea.

Every one ran out of his way when they saw how furious he was—courtiers, servants, cook, and all—while he rushed into his library, declaring that though he had been so cruelly cheated of the Freeze, he would, at any rate, have some Fizz. Here again the unhappy king was doomed to suffer disappointment.

For unluckily the machinery did not work very well, and when he tried to draw it from the bright silver tubes, as he had seen the men do in the drug store, it would not come. This was too much for Frigimand's temper. He instantly caught up a hammer, and began to batter the whole thing, in a new fit of rage. Then, in a single moment, before any one knew what was coming, the whole of the apparatus blew up.

The gas exploded with a fearful crash, destroying the palace, the people, and the king scattering the fragments far and wide. Nothing was ever afterward seen or heard of Frigimand and his kingdom. But to this day all that part of the world is full of great blocks of ice, which we call icebergs, lying around just as the king distributed them in his fury, and making it too difficult and dangerous for people to travel in that neighborhood.

And sometimes the whole sky is full of strange lights and colors that flash and sparkle so brilliantly that we can see them away off here, and learned men call these flashes the "Aurora Borealis," or "Northern Lights," but I know better. I know they come out of the old king's soda fountain, and are only the *Fizz* broken loose.—*Harpers' Monthly*.

DECLAMATION No. 1.

Love of Country.

Next to the worship of the Father of us all, the deepest and grandest of human emotions is the love of the land that gave us birth. It is an enlargement and exaltation of all the tenderest and strongest sympathies of kindred and of home. In all centuries and climes it has lived, and defied chains and dungeons and racks to crush it. It has strewed the earth with its monuments, and has shed undying lustre on a thousand fields on which it has battled. Through the night of ages, Thermopylæ glows like some mountain peak on which the morning sun has risen, because twenty-three hundred years ago, this hallowing passion touched its mural precipices and its crowning crags. It is easy, however, to be patriotic, in piping times of peace, and in the sunny hour

of prosperity. It is national sorrow—it is war, with its attendant perils and horrors, that tests this passion, and winnows from the masses those who, with all their love of life, still love their country more. We honor commerce with all its busy marts, and the workshop with its patient toil and exhaustless ingenuity, but still we would be unfaithful to the truth of history did we not confess that the most heroic champions of human freedom and the most illustrious apostles of its principles have come from the broad fields of agriculture. There seems to be something in the scenes of nature, in her wild and beautiful landscapes, in her cascades and cataracts, and waving woodlands, and in the pure and exhilarating air of her hills and mountains, that embraces the fetters which man would rivet upon the spirit of his fellow-man. It was at the handle of the plow, and amid the breathing odors of its newly-opened furrows, that the character of Cincinnatus was formed, expanded, and matured. It was not in the city, but in the deep gorges and upon the snow-clad summits of the Alps—amid the eagles and the thunders, that William Tell laid the foundations of those altars to human liberty against which the surging tides of European despotism have beaten for centuries, but, thank God, have beaten in vain.

DECLAMATION No. 2.
Decoration Day.

“Forward!” was the word, when day
Dawned upon the armed array.
“Fallen!” was the word when night
Closed upon the field of fight.
“Wounded?” “Yes?” “Where?” “In the
breast!”
Bear him back, then, with the rest.
Only one of many more!
When, O when will war be o'er?
“Hurt, my boy?” “O no, not much:
Only got a little touch.”
“Wonder what the folks would say,
If they knew the news to-day.
“Forward!” was the word that flashed
Homeward when the cannon crashed.
“What's the news?” When night had come,
“Missing!” was the word sent home.
“Fallen?” “Yes. He fell they say,
In the fiercest of the fray!”
“Died last night!” the message said;
So the morrow's papers read.

Not a murmur not a sigh—
O, 'tis glory thus to die!
How her heart heaves! Bows her head!
“Mother, mother!” Mother's dead!
Two green graves we'll deck to-day,
Son's and mother's, side by side;
None will dare to tell us, Nay!
Both for Right and Freedom died.
While we honor him who fell
In the fiercest of the fray,
We will honor her as well,
Lying by his side to-day.
Let the flowers forever fair
Bloom above the sleeping braves.
While the angels guard them there,
Glory lingers round their graves.

—*New York Evening Post.*

DIALOGUE.

Feeding the Black Fillies.

(Adapted from a Sketch).

Mr. Stanley.—“Come here, Mulrooney; I want you to put about two double handfuls of bran into a bucket of warm water, and, after stirring the mixture well, give it to the black fillies. That's what we call a bran mash, in this country. Now, are you sure that you understand me?”

Mulrooney.—“Good luck to yer honor, an' what 'ud I be good for if I didn't? an shure its the ould country mash after all.

Mr. S.—I thought as much; so now, away with you, and be sure you don't make any mistake.

Mul.—It isn't at all likely I'll do that, sir; but about the warrum wather, and the nagur; shall I tell her its yer honor's ordhers?

Mr. S.—Certainly, you foolish fellow. But there will be no trouble about that. She'll understand it perfectly.

(*Mulrooney goes out.*)

Mrs. S. [Entering excitedly.]—I do wish, my dear, you would go into the kitchen. I am afraid there is something quite stupid going on there. That dreadful newly caught Irishman of yours is doing his very best to make Phillis a candidate for a lunatic asylum. They are quarreling about “orders,” which he says you gave him.

Mr. S.—O, it is nothing, I assure you, my dear. You know you were always a little unjust to Mulrooney, who certainly does “his level

best" to please you.

Mrs. S.—Unjust, Mr. Stanley! Didn't he give the Rev. Buffington Creamcheese a foaming goblet of soap and water when the good man meekly asked for a glass of soda-water? Didn't he inquire in a loud whisper if "the ould party in the corner," meaning my respected cousin, Jemima Sowerby, "wouldn't be the betther for a drop o' the crater?" When you called for your shaving apparatus, didn't he bring you a carpenter's plane? and only this very morning, when you requested him to dry the newspaper, I heard him cry out "Masther, is the thafe of a thing done when it's brown?"

Mr. S.—Well, well, my dear, nothing can go wrong this time, for I merely sent him into the kitchen to get some water that he might feed the horses,—and I presume that Phillis has refused to let him have any, and the cause of the row is "only this and nothing more."

[*A sound of breaking dishes is heard.*]

Mrs. S. [In alarm.]—Do go and see what the matter is, I am sure there is something wrong. That bull-headed Irishman will be the death of my poor Phillis, some day.

Mr. S.—Now pray, don't worry yourself, wife. There really is nothing to fret about. A natural antagonism, as no one knows better than yourself, has always existed between the sons of Erin and the daughters of Africa. Phillis will be sure to put obstacles in the way of Mulrooney, out of pure maliciousness.

[*A louder crash of china is heard.*]

Mrs. S.—Mr. Stanley, if you do not go to the rescue of my poor Phillis, I must. Murder will be committed by that dolt of an Irishman, in his zeal to obey what he calls the "masther's ordhers."

[Enter the two servants. *The head of Phillis is under Mulrooney's left arm, while with his right, he tries to force a tin-cup into her mouth, which she vigorously resists.*]

Phillis.—Ha done, I say. I won't hab nuffin to do wid de stuff no how. Go way, yer poor white trash; I've telled ye over'n over, dat I won't—

Mul.—You shtoopid and contrary ould nagur. Don't I be asthur informing yez, that it is the masther's ordhers?

Phil.—Taint no sich thing; I won't, I say; I won't; I won't; I won't! Who ever heerd tell of a spectable culldud pusson atakin a bran mash afore, I'd like to know?

Mul.—You haythen ould nagur you! Don't I kape a tellin yer tish the masther's ordhers?

Phil.—You can't make dis nigger bleve dat no how. Taint no sich thing. Missis knows 'tain't. Don't you, missis?

Mr. S. [*Recovering from his astonishment.*]—For mercy's sake Mulrooney, what are you trying to force down the throat of Phillis? Let the poor creature go, this instant.

Mul.—I'm shure, sir, what 'ud I be doin' but givin black Phillis the bran mash, accordin' to yer honor's ordhers?

Mr. S.—O, you stupid Irishman! not to know that I meant the horses. Leave the room, sir!

Mul. [*Muttering as he goes.*]—Shure an' if they calls horses Phillis, and Phillis horses, I'd like to know how a poor boy is ever to find out the difference!

DIALOGUE.

The Spider and the Fly.

For our very youngest readers, we have arranged in the form of a dialogue, Mary Howitt's poem of the "Spider and the Fly." We have taken a slight liberty with the catastrophe, to which, we are sure the pitiful little darlings for whose taste we cater on this occasion, will not object.

The fly should appear in costume—not forgetting wings—of pale green tarletan and silver. An ornament in the same colors, imitating the insect which she personates, should hover above her golden curls. The quivering effects can be produced by attaching the tinsel fly to fine copper wire which has been wound round a lead pencil.

The brunette who plays the other part must dress in black and gold, *minus* pinions. A golden spider may peer out of her dark curls.

A waltz or polka, in which the spider follows the fly, who alternately allows and repels her presence, must open and close the performance.

Quite a pretty effect is produced, when the fly accompanies her dance with a musical hum.

Spider.—Will you walk into my parlor, you radiant little fly?
'Tis the prettiest, brightest parlor that ever you did spy.
The way into this charming room is up a winding stair,
And I have many things to show you when you're there!

Fly.—O, no, no, Madam Spider, to ask me is in vain,

For who goes up your winding stair can ne'er come down again!

Spider.—Will you rest upon my little bed, industrious Mistress Fly?

I'm sure you must be weary, dear, with soaring up so high!

There are pretty curtains drawn around, the sheets are fine and thin,

And if you'll come and rest awhile, I'll snugly tuck you in.

Fly.—Your pardon, Mistress Spider, but I've often heard it said, They never, never wake again who sleep upon your bed!

Spider.—I wish you'd tell me, dearest Fly, of aught that I can do, To prove the warm affection I've ever felt for you!

I have within my pantry, good store of all that's nice;

I'm sure you're very welcome, will you please to take a slice?

Fly.—O, no, no, Mistress Spider, kind Madam, that cannot be, I've heard what's in your pantry and I do not wish to see!

Spider.—You beautiful, sweet creature! You're witty and you're wise—

How handsome are your gauzy wings! how brilliant are your eyes!

I have a little looking-glass upon my parlor shelf, If you'll step in one moment, you shall behold yourself.

Fly.—I thank you, gentle Mistress S, for what you're pleased to say, And, bidding you good morning now, will call another day.

[*The fly waltzes off the stage.*]

Spider. [soliloquizing.]—I've nought to do but turn about, and creep into my den, For well I know that silly thing will soon come back again;

So I'll weave a subtle web, in a liitle corner sly, And make my table ready to dine upon the fly; For, when she comes, as 'sure she will, within my fierce claws' range,

I rather think, fair Mistress Fly, your merry mood will change—

For I'll drag you up my winding stair into my dismal den,

Within my little parlor, whence you'll ne'er come out again,

But now I'll hasten to my door, where I see her purple wing. [*Fly slowly advances.*]

And as she near and nearer draws I merrily will sing.

“Come here, and o'er my gloomy cell, your radiant splendor fling!

Your robes are green and silver, there's a crest upon your head,

Your eyes are like the diamond bright, but mine are dull as lead!”

Fly. [*Addressing the audience.*]—Grim Mistress Spider really thinks I'm such a silly fly,

As not to know how that her flattering words are only — “in my eye!” O, thank you, Mistress S., I'm not quite ready yet, To be served up as a “fancy roast,” although your table's set. I think you'd better hasten now, and put your dish away, For you'll not dine upon this fly at least, my dear, to-day!

TABLEAU.

Abou Ben Adhem.

One of the finest tableaux we have ever seen illustrates the poem of Abou Ben Adhem. It may be read, though the exquisite chant to which it has been set, is much more effective sung behind the scene.

Abou Ben Adhem (may his tribe increase!) Awoke one night from a sweet dream of peace, And saw within the moonlight of his room, Making it rich and like a lily in bloom, An angel writing in a book of gold.

[*Curtain rises.*]

Exceeding peace had made Ben Adhem bold, And, to the presence in the room, he said, “What writhest thou?” The vision raised its head, [The angel suits the action to the word.] And with a look made of all sweet accord, Answered, “The names of those who love the Lord,”

“And is mine one?” asked Abou,—“Nay not so,” [*Angel shakes his head negatively.*]

Replied the angel, Abou spake more low, But cheerily still; and said—“I pray thee then, Write me as one that loves his fellow men.”

(*Angel writes, and at the word “vanished,” curtain drops.*)

The angel wrote and vanished. The next night It came again with a great wakening light,

(*The curtain rises, calcium light is thrown on the scene, and the angel shows the golden book with the name of Abou Ben Adhem in illuminated letters, across the top.*)

And showed the names whom love of God had blessed;

And lo! Ben Adhem's name led all the rest!

The public schools in Bristol, R. I., contain 1,000 scholars. The books, stationery, etc., are furnished at the public expense, the cost for each scholar averaging about \$1.25 a year. This is the only city in the State that continues this plan, it having proved satisfactory after an experience of five years.

St. Louis makes no discrimination of sex in fixing the pay of teachers. The salary attaches to the position, and competent women are filling in some schools the place of “supervising principal,” at a salary of \$2,200 per annum.

THE PACIFIC SCHOOL AND HOME JOURNAL.

VOL. I.

SAN FRANCISCO, MAY, 1877.

No. 3.

WILDNESS.

IN TWO PAPERS.—NUMBER TWO

BY JOHN MUIR.

"Yes, wild sheep, I guess we'll have to admit you *have* wool, but Mary's lamb had more. In the name of use, how many wild sheep, think you, would be required to make a pair of socks?" I endeavored to point out the irrelevance of the latter question, arguing that wild wool was not meant for men, but for sheep, and that however deficient as clothing for other animals, it is just the thing for the brave mountatin-dweller that wears it. Obvious, however, as all this appears, the quantity question rises again and again in all its commonplace tameness; for to obtain a hearing on behalf of nature from any other standpoint than that of human use is well-nigh impossible. Domestic flocks yield more yarn per animal than the wild, and it is claimed, therefore that culture has improved upon wildness. And so it has, so far as flannel is concerned, but all to the contrary as far as sheep's dress is concerned. Clothe every wild sheep inhabiting the Sierras, with tame wool, and probably only

a few would survive the dangers of a single season. With their fine limbs muffled and bound beneath a tangle of hairless wool, they would become short-winded in running, and fall an easy prey to the strong mountain wolves. In descending precipices they would be thrown out of balance and killed by the shaggy dresses catching on the sharp points of rocks. Skin disease would also be engendered by the dirt that never fails to find lodgment in tame wool and by the draggled and water-soaked condition into which it falls during stormy weather.

No dogma taught by the present civilization seems to form so insuperable an obstacle in the way of a right understanding of the relation that culture sustains to wildness, as that which declares that the world was created especially for the use of man. Every animal, plant, and crystal controverts it in the plainest terms. Still it is taught from century to century as something ever new and precious, and in the resulting darkness, the enormous conceit is allowed to go unchallenged.

I have never yet happened upon a trace of evidence tending to show that any one animal was ever made for another animal, or for man, as much as it was made for itself. Not that nature exhibits any

such thing as selfish isolation. On the contrary in the making of every animal, the presence, and well-being of every other has been considered. Indeed, every atom in the Cosmos may be said to be acquainted with or married to every other; but with universal union there is division, sufficient in degree for the purposes of the most intense individuality, and no matter how small or great may be the part that any creature plays in the song of existence, it is made first for itself, then more and more remotely for all the world and worlds.

Nature takes precious care that the universe is not fettered together like a fleece of tame wool. We are governed more than we know, and most when we are wildest. Plants, animals, crystals, and stars are held in place, bridled along appointed ways with one another, and *through the midst* of one another, killing and being killed, eating and being eaten in harmonious proportions and numbers. And it is right that we should thus reciprocally make use of one another—cook, cultivate, and consume to the utmost of our healthy abilities and desires. Stars attract each other as they are able, and harmony results. Wild lambs eat as many wild flowers as they can find or want, and men and wolves eat the lambs to just the same extent. This consumption of one animal by another in its various modifications is a kind of culture, varying with the degree of directness in which it is carried out; but we should not ascribe to such culture any improving effect upon those on whom it is brought to bear. The water-ousel plucks moss from the river-bank to build its nest, but it does not improve the moss by plucking it. We pluck feathers from birds, and less directly, wool from wild sheep for the manufacture of clothing, and cradle-nests, without improving the birds or sheep that wore them. When a hawk pounces upon a linnet, and proceeds to pluck out its feathers, preparatory to making a meal, the hawk may be

said to be cultivating the linnet; and he certainly does effect an improvement as far as hawk-food is concerned; but what of the songster? He ceases to be a linnet as soon as he is snatched from the woodland choir; and when we, hawk-like, snatch the wild sheep from his native mountain, and instead of eating or wearing it at once, carry it home and breed the hair out of its wool, and the bones out of its body, it ceases to be a true sheep. These breeding and plucking processes are similarly improving as regards the special uses aimed at; although the one requires but a few minutes for its accomplishment, the other as many years or centuries. We eat wild oysters alive with great directness, waiting for no kind of modifying cultivation; but we take wild sheep to our homes, and subject them to the many extended processes of husbandry, and finish by cooking them, a process which completes all sheep improvements as far as man is concerned. It seems plain, therefore, that tame wool and wild wool, tame sheep and wild sheep, are not in any right sense comparable. They are different things invented for different purposes.

Illustrative examples may be multiplied indefinitely drawn from every region touched by culture. Recurring for a moment to apples. The beauty and completeness of a wild apple-tree living its own life in the woods is heartily acknowledged by all who are so happy as to have made its acquaintance. The fine wild piquancy of its fruit is unrivalled, but in the great question of quantity as human food, wild apples are found wanting. We therefore, manure, and prune, and graft; plan and guess; add a little of this and that, until apples of every conceivable size and pulpiness are produced, like nutgalls in response to the irritating punctures of insects. Orchard apples are to me the most beautiful words that cultivation has ever spoken, but they reflect no imperfec-

tion on nature's spicy crab... Every cultivated apple is a crab, not improved but *cooked*; variously softened and swelled out in the process, sweetened, spiced, and multiplied, and rendered good for food, but no longer fitted for its first natural uses. Give to Nature every orchard apple, Codling, Pippin, Russet; and every sheep so laboriously compounded, muffled Southdowns, hairy Cotswolds, wrinkled Merinos, and she would throw one to her wolves, the other to her caterpillars.

It is now some three thousand six hundred years since Jacob kissed his mother and set out across the plains of Padan-aram to begin his experiments upon the flocks of his uncle Laban, and notwithstanding the excellence he attained as a wool-grower, and the innumerable painstaking efforts made, subsequently, by individuals and associations in all kinds of pastures and climates, we seem still to be far from satisfactory results. In one breed the wool is apt to wither and crinkle like hay on a sun-beaten hillside. In another it lodges and becomes matted together like the lush grass of a manured meadow. In one the staple is deficient in length, in another in fineness; while in all there is a constant tendency to a diseased condition, rendering various washings and dippings indispensable, to prevent the wool from falling off. The problem of the quality and quantity of the carcass seems as far from a satisfactory solution as that of the wool.

Desirable breeds found amid long series of groping experiments often prove unstable, or to be subject to blind-staggers, foot-rot, bot, etc., causing infinite trouble both to breeders and manufacturers. It seems strange, therefore, that some one does not go back again all the way to fresh wildness and begin anew.

The source, or sources whence various breeds were derived is not positively known, but there can hardly be any doubt of their

being descendants of the few wild species so generally distributed over the globe; the marked differences between the species being readily accounted for by the known variability of the animal.

No other animal upon which man has laid his hands seems to yield so submissively to the manipulations of culture. Jacob controlled the color of his flocks merely by causing them to stare at objects of the desired hue; and possibly Merinos may have caught their wrinkles from the perplexed brows of their breeders. Pure wildness is the one great want both of tame men and sheep.

HOW TEACHERS GROW OLD.

(From an Essay that was never read.)

BY A. L. MANN.

The profession of teaching is exhaustive of nervous power and we might reasonably expect it to be so. The knight errant who would vanquish the triple-headed dragon of the School-room—idleness, stupidity, and mischief, must be armed at all points, and always ready for the encounter. Many fall early in the strife, while others attest, by their war-worn countenances and emaciated physique, the bitterness of the conflict. The conventional idea of the pedagogue is "lean and slippered," like the sixth age of Shakespeare. Ichabod Crane constantly reappears in burlesque and caricature; and if any small illustrator of life and manners wishes to draw a representative old maid, he is sure to "cap the climax," by making her a "school ma'am." Why is this? Why should not schoolmasters be as rotund as the judges, and as jolly as the parsons of caricature? Admitting as true all that may be said concerning the peculiar labors and trials that fall to the lot of the instructor of youth, we think the main reason why teachers wear out so soon, is their own want of care in husband-

ing their resources. The draft upon their nervous energy is great; but the consumption is often needlessly increased.

Not long since, an English statistician showed that two classes of society live to the greatest age—gentlemen and paupers. The inference is, that those whose circumstances and habits of mind are such as to relieve them from alternations of excitement and depression, prolong their lives far beyond the period reached even by the farmer or athlete who would seem to be under more favorable physical conditions. Hence the duty of cultivating serenity of temper and cheerfulness of disposition is manifest, if we desire to preserve life and health and the power of doing good. But many thoroughly conscientious teachers not only neglect this plain rule of nervous physiology, but still further waste their energies in loud and incessant talking. They weary themselves with tedious explanations. They lecture their classes after the manner of German professors, and while the little ones are holding out their acorn-cups for a few dew-drops of knowledge they pour it in by the gallon. And who has not heard recitations of this sort?

"George! What is the Equator?"

"The Equator is what the Earth turns on."

"O! you don't mean that; think again."

"The Equator is a line which goes around the Earth."

"But where on the Earth is it?"

"Round the center."

"Then you mean that the Equator is an imaginary line, running East and West, entirely around the Earth, every point of which is equally distant from the Poles, do you?"

"Yes, sir."

And so the lesson goes on; the teacher asking four times the requisite number of questions, and in the end answering them himself. If John or Mary is careless or mischievous, the whole school is earnestly

harangued on the subjects of carelessness and mischief. Even so simple a matter as assigning the next lesson, becomes a "thorn in the flesh," and a torture to the nerves of a sensitive teacher. For, mindful of previous carelessness, he repeats his directions with painful distinctness, and winds up with a homily on the baneful results of inattention. So the day passes—six wearisome hours of lecturing, scolding, fuming and fretting. What wonder if the poor pedagogue issues forth at night with aching head, weary limbs and dry, burning throat. What wonder if in a few years he has dyspepsia, neuralgia, and bronchitis with all their wretched retinue of aches and pains. And how soon the blooming school mistress who was so fresh and lively in the normal class, acquires the thin compressed lip, the hard lines about the brow and the keen glance of the eye, that the wary bachelor knows too well, portend curtain lectures and ultra notions of woman's rights! And in place of the "low, soft voice, that excellent thing in woman," how often are we disappointed and saddened to hear its sharp, metallic ring, "like sweet bells jangled out of tune, and harsh." The writer was once complaining to a veteran teacher of a frequent sore throat, accompanied by a pain across the chest. He replied "I think you talk too much and too loud." His listener, though somewhat chagrined, pondered well the suggestion, and profited more by acting upon it, than he would have done by the most enlightened medical treatment. The pity of it is, that most of this labor which reacts so painfully on the teacher, is strength spent in vain. The acorn-cup cannot hold the gallon, and so the precious liquor runs to waste. The indolent pupil, finding the teacher willing to make up his deficiencies, is encouraged to persist in indolence. The careless boy, who never knows where the lesson is, but expects it to be given out at least three times, listens .

only at the third time or not at all. And John and Mary, perhaps too sharply reprobred for petty mischief, pout and shrug their shoulders and wait for a favorable opportunity to repeat the offence. Most of our troubles arise from not well considering the nature of the juvenile mind. The teacher with the help of his trained intellect and his acquired power of concise expression, sets forth a demonstration, for instance, of the rule for the division of fractions; and he is impatient that it fails to find a lodgment at once in the mind of youth, unaccustomed to abstraction, and already preoccupied with the love of kites and marbles. Many, too, seem to regard petty infractions of discipline as not only criminal in themselves, and indicating a heart wholly depraved, but as direct personal affronts to the teacher. Hence, the schoolmaster in the "good old times" took vengeance, by making the offender hold out a heavy book, or put his finger on a nail in the floor, or "sit upon nothing," or (Oh! direst of punishment!) he placed a girl between two boys, or *vice versa*. But as public sentiment does not now tolerate such things, too often his over-charged feelings find vent in cutting words.

Now, the fact is, pupils are generally well disposed. They mean to do right, or, at least they have no aggressive intention to do wrong. When the master on the first day of school asks how many mean to improve their time to the best of their ability, he is greeted with eager faces and an almost unanimous show of hands. And even the hardest cases in discipline scarcely ever fail, in the quiet and privacy of a confidential interview, to show signs of contrition, and to make promises for the future, which at the time are undoubtedly sincere. But poor human nature is weak and short-sighted—even developed human nature. As the moon from its nearness to our eyes, is able to obscure the sun though having four hundred times its

diameter, so present temptation with its promise of trifling advantage, often outweighs all consideration of future good. Are there not thousands of adult men in San Francisco who eclipse health, property, and reputation with the bottom of a whisky-glass? And how many teachers even, are there, who, well aware that a modern language may be acquired in a few years by turning to account those fragments of time chipped off from the regular duties of each day, waste those precious moments in idle gossip or purposeless reverie? How unreasonable, then, to look for greater wisdom in children, in whom the appetites and passions have already attained hardy and vigorous growth, but the "young idea" has only just begun to "shoot." It is upon this principle that we surround the objects of juvenile effort with immediate and material attractions. We give rewards and medals and inscribe the names of the deserving upon the "Roll of Honor;" we urge the approbation of parents and teachers and the respect of fellow-pupils, and thus endeavor to make study by its present inducements more attractive than idleness or play. Yet, while in this way we acknowledge that the will is weak, and that higher motives are insufficient to secure quiet and studious habits, many of us are worried at every manifestation of neglect, and struck to the heart at every dereliction from duty. It is better to preserve a philosophic calmness—much better for the pupil, infinitely better for the teacher. If George blunders over his geography lesson by reason of defective preparation, don't fret about it, and try to help him out, but quietly pass on to the next and mark George a failure. If John doesn't know where the lesson is, tell him he may find out, but you are sorry he has obliged you to mark him in deportment for his heedlessness in forgetting it. If Miss Jennie is disposed to talk over the events of last night's party with her next neighbor, make

the least possible effort at the time necessary to stop the disturbance, but at night, when the hurrying floods of the day's trials have settled into quiet pools and shallows, talk to her. If pupils find that every instance of carelessness does not produce a peevish outburst from the teacher, but is invariably followed by some disadvantage to themselves; if they are fully persuaded that an imperfectly prepared lesson will not be recognized at all; if they know that they will be made to feel regret and sorrow for every violation of good order, there will not only be better feeling between teacher and pupil, but the objects of school training will be more certainly secured. I am convinced that teachers never need use any other than the ordinary conversational tone. Yet many gifted with lungs of brass, teach like Demosthenes by the seashore, or a western orator from the stump. Thunders of denunciation follow every failure in recitation, and every symptom of disorder. Now, this exhausts the teacher, and from its very commonness ceases to have any effect with the pupil. At first he is bewildered like the raw recruit at the first volley of musketry; but he soon endures constant discharges of pedagogic artillery with stolid indifference. Yet the same pupils, who have been in the habit of accommodating their ears to the deepest window shattering bass, will soon learn to heed and respect the softest and smoothest alto or tenor. It has been said "A teacher in explaining cannot talk too much; in punishing too little." It seems to me more nearly true to say, he cannot talk *too little*, in either case. A long, complicated demonstration must be frequently repeated before it is mastered by the student; and even then there is great risk of his memorizing words, and words alone. But a principle which he has discovered for himself, or to which he has been directed by hints and suggestions from his teacher, may be acquired in less time, and is much more surely his own.

And in those cases which will sometimes arise when milder means have failed, and there must be a resort to severer measures, there should be no bluster, no declamation, no loud talking. It should not only appear that punishment is inflicted more "in sorrow than in anger," it should actually *be* so. The exhibition of the paramount majesty of law will be all the more impressive, if it be made without noise; just as the polished irresistible force of the piston-rod of a steam-engine strikes the beholder with unspeakable awe. Anger, if it be felt and suppressed from a sense of fitness, leaves behind it a feeling of exhaustion. We are told, that, if a force be suddenly arrested, it suddenly reappears in another form. So anger, repressed by a strong effort of the will, recoils upon the nerves and leaves its scathing impress on the features. Therefore, in all things the teacher should endeavor to show himself the true gentleman; self-controlled, patient, cheerful; gentle in the manner, but firm in the action, "with charity toward all, and malice toward none," calmly pursuing the even tenor of his way.

Thus he will make his labor easier of performance, and more certain of reward, and feel himself gliding almost imperceptibly toward the haven of a "green old age."

WHY DRAWING SHOULD BE TAUGHT.

BY MRS. E. P. BRADLEY.

A new era begins to manifest itself among educators in this country, and, even business men are awakening to the importance of combining industrial education with the general culture of our public school system. For more than twenty years, a constant effort has been made in the principal countries of Europe, to improve the masses by giving them an in-

dustrial education. The first Napoleon, though busy with war and its attendant complications, nevertheless recognized the importance of industrial education to France, and gave to it an impetus which is recognized at the present day. It is noticeable that all articles of most exquisite design and tasteful skill of workmanship are manufactured in France. The universal industrial education of its workmen is the great reason why that industrious country so readily recovered from the terrible war with Germany, and why it so easily paid the enormous indemnity and debts which grew out of that war.

America develops and fosters the public schools; Europe combines industrial education with her ordinary instruction in the public schools. This is what we are beginning to recognize must be done in this country. Our children must be trained to labor at the same time they are trained to read and write. A knowledge of drawing and design must form a basis of all industrial progress. That it can be taught as universally as arithmetic or grammar is the testimony of European experience. They begin the work in the elementary schools; carry it on through evening schools, through schools taught on Sunday, through schools for special industries, even in towns of one or two thousand inhabitants, and through schools of arts and trades. They also advance it by popular lectures, by local museums, and frequent exhibitions. They complete it in great technical universities and art museums, with their numerous and comprehensive courses. In this way they provide for all ranks in life, and for all the exigencies of art and industry. Skilled workmen, who have received only an elementary training in their youth, leave the workshop in the evening to crowd the schools, where they may continue the training they have found so advantageous in their work. In the great World's Fair in 1851, England found herself far behind the

other European nations in the products involving tasteful designs, and above the United States alone. The British government became alarmed at this state of affairs, and formed a new department called the Science and Art Department, which has for its special object the popular dissemination of a knowledge of science and art as applied to industry. This department began its work by the establishment of institutions of drawing and design. The South Kensington Museum was established at a cost of some six millions of dollars. This school fits teachers and art-masters free of cost. It is the great centre of art instruction. The educational influence of the government is felt all over England; and in nearly all large towns are art schools. It must not be overlooked that drawing forms an important part of the instruction given in the elementary schools.

The good results of all this art instruction were distinctly seen at the universal Exhibition held in London in 1862. France began to be alarmed. If in eleven years, England, by promoting art instruction in the schools, had taken such a stride in her manufactures, that her products compared favorably with their own in tastefulness and skill in design, what might they not accomplish in another decade? So the emperor appointed an able commission to investigate the subject of technical education in general and of art-industrial education in particular. In 1865 this commission made an elaborate report from which I quote these words "*Drawing with all its applications to the different industrial arts should be considered as the principal means to be employed in the technical instruction.*" The government of France acted immediately upon the advice of the commission, that art-education and drawing in particular should be taught in a more thorough and scientific manner, if France was to retain her industrial supremacy. Better teachers were provided, better

appointed school rooms, better models and drawing copies. Since the late disastrous war with Germany, the efforts of the French government in behalf of instruction in drawing have been still more vigorous and efficient. Germany, Austria, and Russia have followed the example set by France in the organization of Drawing and Industrial schools. "Their attention was directed to the industrial importance of these schools and to the fact that they form the true basis of the wealth of France."

All Europe seems to have become convinced of the importance of art instruction and nearly all of the countries are imitating the methods adopted in England. Now, we, in America, are behind European countries in both the quality and quantity of art instruction given to the masses. This is the reason that we send so much gold to France for nearly everything that is tasteful and lovely in design. We are also obliged to import designers to effectually carry on skillful work in our own country. Our manufacturers would be glad to employ native designers, were they to be had. They are well aware that beauty of design is a large element in the worth of manufactured articles, and cheerfully pay high prices for good designs. Skill and taste are matters of education, and French designers complain that their most exquisite designs are not generally appreciated in America; that they have to conform to the public taste and are not stimulated to their best efforts; all of which indicates the deficiency of taste among our people. Now, our public schools ought to be, in a measure, creators of public taste. Children's minds are readily molded. Drawing, in its different branches, must be the means of improving the general taste. In Boston, where Smith's System of Industrial Drawing, which is similar to the system used in England, has been in use longer than in any other city of the United States, merchants have already noticed a percept-

ible improvement in the taste of the people. They say they have to select better designs, and, frequently when purchasing, the children correct the bad taste of the parents.

In order to develop the taste of the pupil, the drawing copies should be as beautiful as possible. The pupil should frequently be exercised in original designs, should frequently apply all the principles he has learned. Instruction in drawing should begin in the primary schools and should be universal. Special Art schools and schools of Technology should be established in all of our large cities for carrying the instruction onward, and for further development in taste and skill.

On examining a table of exports and imports of the United States, the observer will easily perceive that the exports are raw materials or articles of rough manufacture. That the imports are largely articles of skilled workmanship and tasteful industry; in other words that the United States are "the hewers of wood, and the drawers of water."

Thus it is manifest that the prosperity of European industry is due to efficient industrial training; that the industry of our own country is seriously threatened in consequence of deficiency of such training, and that if the United States would maintain a footing in foreign markets or even hold its home markets, it is necessary to immediately move in the direction in which the experience of other nations shows we should go.

THE Algerian railway companies have been engaged for several years past in restoring the Algerian forests, and on the route between Algiers and Oran over four million trees have been planted, which it is stated, have already had a very decided effect upon the moisture of the country.

WORK not for yourselves alone, but for all mankind.

**IMPROVEMENTS IN WRITTEN
LANGUAGE—ENGLISH OR-
THOGRAPHY, ITS DE-
FECTS AND THEIR
REMEDY.**

IN TWO PARTS.—PART SECOND.

Extracts from an essay by Z. L. KAY, Teachers' Institute
San Diego, Cal.

A Cherokee Indian, trying to repeat the following lines, showed how utterly ridiculous our common words, when printed, must appear to other nations:

"Though the tough cough and hiccough plough me through,
O'er life's dark lough my course I will pursue."

Giving the letters *ough* the same sound in each word, he had it thus:

"Tho the to co and hicco plo me thro,"
"Thuf the tuf euf and hiccup pluf me thruf,"
"Thup the tup cup and hiccup plup me thrup,"
&c.

The Frenchman did not better the matter much, when, in trying to tell that he had a cough in his chest, complained of a *cough* [cough] in his *box* [chest.]

No wonder that Voltaire, on learning that *ague* is pronounced in two syllables, and *plague* in one, should wish that one-half the English had the *ague* and the other half the *plague*.

It affords foreigners no information whatever as to the sounds they are to give the words in order to be intelligible to those amongst whom they settle, or with whom they are dealing. And through this cause alone thousands of immigrants, and millions of dollars are annually kept away from America.

It prevents thousands of Americans from acquiring the languages of neighboring nations. A student may have his own language, and that he is trying to learn, printed on the same page, with the words opposite, and yet he has no sure guide to their pronunciation; "he *must* have a living teacher," is the accepted idea. Hence, while our spelling remains in its present

style, the acquisition of modern languages must necessarily be confined to the favored few, who are wealthy enough to send their children to colleges.

Again, it hinders us from learning the various changes which have taken place in the formation of our own language. And by its irregularity and numerous equivocal letters and sounds it prevents us from acquiring a uniform standard of pronunciation. Hence it stands condemned as a hindrance (in a certain sense of the word), to our international and commercial prosperity.

Knowledge is the key which unlocks the storehouse of creation, and opens to us the treasures of the universe. If we do not possess this key, we may grope in darkness and doubt all our lives.

All persons begin life in ignorance. That they may acquire knowledge, and thereby receive the benefits of the experience of past ages it is necessary for them to learn to read. To accomplish this, under our present system, their minds, while most susceptible of lasting impressions, are obliged to be exercised on our fickle spelling until the relations of similarity and succession are rendered almost absurd. Their practical exercises in spelling and reading are guided by no rule whatever. Hence in their first lessons they learn to sacrifice all reason; to forego all intuitive knowledge; to banish even the better judgment of their own common sense, and to yield, blindly yield to the dictates of custom and routine. A great moral and logical evil is thus often done to the child's mind; for, instead of being educated, drawn out and expanded, it is cramped, confined, hemmed in and hindered in its search for knowledge.

With our present system of spelling, it is a long and difficult process to learn to read and write, whereas, if we had a natural system, divested of useless encumbrances, these useful branches might be acquired

in half the time. And thereby the student would gain years of study in the higher branches of art and science.

What good is secured to the people by having botany, physiology, algebra, philosophy, &c., recommended in the school laws, if only one in a hundred of the children in the country ever advances far enough to study these branches? surely they remain almost as a dead letter. And what is the cause?—The *dead letters of the dead languages*, which encumber our books, weigh down the minds of our pupils, and benumb the energies of our teachers.

These *dead* things require all the time farmers' children usually find for school purposes; and thus, the *living* realities of every day life,—the beauties and rich treasures of nature all around them, remain a sealed book, hidden from their view, almost as effectually as though they were in a world where no such things were in existence. At the same time these numerous *false* letters give the children's minds a false training, a bend in the wrong direction—a something learned that must be unlearned; and which may take a lifetime to accomplish.

In teaching to read, all the ordinary systems proceed upon the fact that each word has a separate, independent symbol which must be individually committed to memory, so that the sign will recall the sound.

The "word method," advises this plan without disguise: The teacher points to a word and utters the sound, and continues until the child is able to recognize the words. Other systems partially disguise the fact by teaching first the names of the letters, then the words. Column after column of equivocal signs must be committed to memory by naming the ever varying letters of which the words are composed. The most tedious, irksome, irrational exercise of the mind of which it is possible to conceive, must be practiced, not only for days and weeks but for months and years,

until, after the learner is so thoroughly disgusted as to cause him ever after to loathe the very thought of books and school. Of course, such a child will seldom, or never, be a bright scholar, for its mind is thus driven in upon itself and stupefied for life. In many other cases the child's bodily health gives way under the severe mental tax, and what might have been a useful, happy life, had we been possessed of a systematic mode of spelling and reading, ends by a sickly constitution in premature decay and death.

Whose fault is it? Surely not the teachers'. We do all we can under the circumstances. The flaw is in the materials. It is impossible to build a sound house out of rotten timber. Hence if we conceive spelling as a contrivance for rendering the acquisition of knowledge easy and rapid, our present orthography must be viewed as a practical failure. Notwithstanding all the good it has done in the absence of a better, it must, therefore, stand condemned not only as a hinderance to our present and future commercial and international prosperity, but as a great moral and logical detriment to the early, rapid, easy, and systematic acquisition of knowledge. "As an incubus," which all students, parents, educators, statesmen, and patriots must be desirous of seeing improved.

No wonder that our Honorable State Board of Education should declare that spelling-books are rather *spell*-books, calculated to cast a spell over the minds of children, and therefore should be banished from our schools. This was an important step in the right direction, for it is often more difficult to get rid of a bad thing than to introduce a good one. But abolishing the use of the books does not remedy the evil; the tree requires still further pruning. Many of its branches are dead and require amputation. This work naturally devolves upon the teachers.

While reporters are able, by modern im-

provements and a disregard of the ancient rules of spelling, to do as much writing in one year, as by the old method, they could do in six; and while all the other departments of art and science are progressing in like ratio, shall we with our department lag behind? Are our minds so *spell-bound* by long continued study and practice of a system containing a host of absurdities, as to render us blind to its defects and deleterious consequences?

Shall the six hundred thousand native adult whites of America who can neither read nor write, and the six millions who can scarcely read, be compelled to grope the balance of their lives in darkness, through our neglect to provide them books adapted to their mental capacities? Shall millions of their children be permitted to grow up in ignorance and misery, simply because the books offered for their instruction are printed in such an absurd system as to weary their minds with hieroglyphics before they can get the meaning of what they attemp to read? Shall they, thereby, be caused to cast aside in disgust the most useful books, and turn to scenes of idleness and folly? Shall other millions, from the same cause, be permitted to spend their leisure days, evenings, and Sundays, in acquiring habits which will lead them into dens of infamy, and be a lasting dishonor to themselves, their parents, and teachers, and a reproach to their country?

The vast amount of ignorance so prevalent in America, is due, in a great degree, to the difficulties in learning to read our books. How many are aware that nearly one-seventh of all the men who voted at the last Presidential election, were unable to read the ticket they voted?

How can we expect to continue a free, happy, prosperous nation, if we permit the minds of one-seventh of our fellow citizens to be bound in the degrading thralldom of ignorance? Six millions of people in the fetters of illiteracy, and, therefore, subject

to the dictates of the wiley politicians, are nearly enough to subvert our government, and make slaves of all the balance!

It is within the power of the teachers, in co-operation with other professional men, and the people of America, to remedy these crying evils. And, we venture, by future generations they will not be held blameless if they neglect so great a duty.

The remedy simply demands that we cast aside the numerous silent letters which now encumber our books. In order to do this we must have a fixed character for each sound, especially the vowels. If we will reduce the two hundred and seventy equivocal letters to seventeen and add them to the twenty-six found in what we call our alphabet, we will have a perfect alphabet. This work may be summed up as follows:

1st. Give each letter of our alphabet its most appropriate sound. Thus, let the letter *a* stand for the sound *a* as heard in ale, and no other.

2d. To denote the other sounds of *a*, slightly vary its shape, but do not destroy its form.

3d. So continue in a systematic manner with all the other vowels.

Then use these letters and there will be no necessity for any silent letters whatever. Words would then be printed as spoken, and there could be no doubt as to their spelling or pronunciation. Let books be printed in this new style and brought into general use and nearly all the evils above enumerated will vanish. Then a child that never knew a letter, or a foreigner who never spoke a word of English, once learning the alphabet, and the methods of combining the letters and sounds, on seeing a word printed will know instantly what sounds to utter in order to read or speak correctly. And the moment they hear a word uttered they will know what letters to write in order to spell it properly. Being simply an improvement

of our common alphabet, and made of spelling, the letters all being the same, or nearly the same, there would be but very little difficulty experienced in changing from one system to the other. Hence, any one who reads one system fluently, could read the other after a little practice. Again, German, French, Italian and other languages can be written and printed precisely as spoken. So that any American who would learn this system, could readily read and speak these languages.

This has been practically demonstrated, and books are being prepared for this purpose. But the greatest benefits would arise from the ease with which our own language could be learned, not only by American children, but by foreigners of every nation and clime.

Let books be printed in this system, and brought into general use, and truly, the gate to knowledge would be thrown wide open. To read, spell, and write would be almost as easy as to speak.

The Americanized English would then be the easiest language in the world to acquire. The energy, pluck, and perseverance of its speakers, and their commercial, political, and social relations with other nations, would soon cause it to benefit the entire civilized world. Yea, more; to penetrate the deep gloom of heathenism, and roll the cheering waves of peace and prosperity over the dark corners of the globe. Such an improvement in our printed language would be a national blessing. And the intelligent Americans of to-day are the very people to avail themselves of its benefits. Hence, we as teachers and patriots, looking to the general welfare of humanity, and especially to the interests of those of our own country, may earnestly strive to bring such a reform before the people, and confidently hope to see our labors crowned with success.

NEVER judge a man by a few of his actions, but by his entire conduct.

GREAT EDUCATORS.—THEIR LIVES AND LABORS.

The subjoined sketch is the first of a series we purpose publishing under this title. It is taken from the *New England Journal of Education*, of July, 1876. The subject is universally known on this coast, and the account, though eulogistic, does no more than justice to the eminent services rendered to education by the teacher :

JOHN SWETT, OF SAN FRANCISCO.

It is to John Swett that California is especially indebted for her present system of public schools. This system is so admirable that equally good schools are to be found in only three or four other States. The father of the public school system of California has been called, and not unjustly, the Horace Mann of the Pacific Coast.

Mr. Swett, who is now some forty-five years old, was born in Pittsfield, N. H. He moved to California about twenty-five years ago. At that time California had no public school system; slight attempts towards organizing public instruction, had indeed been made, yet everything was in a chaotic state, and continued so several years longer. The fact that unlicensed teachers drew the public funds is a glaring proof of the evil situation.

Some twelve or fourteen years ago Mr. Swett was elected State Superintendent of Public Schools, serving five years. A man of his positive characteristics could not merely drift. There was an immense educational work waiting to be done by some one; he proceeded to do it in no timid, temporizing manner. His hand drew nearly all the laws relating to education which California now bears on her statute book. These laws have been, in the main, transcribed by Oregon and Nevada.

One of these laws provides that every public school teacher of the State shall be examined by a State Board of Examination, empowered to grant graded certificates. It is needless to say that the happiest results have sprung from this law. Under

its influence teaching has become a regular profession throughout California; the qualifications of the teachers have been greatly elevated; and the salaries paid them are exceedingly liberal, as they should be when the instruction is good. Ladies in country districts are now paid from fifty to one hundred dollars in gold per month, and the schools are in session eight to ten months in each year.

Having served the State four years, Mr. Swett lost his election when the politics of the State underwent a decided change. However, he was so popular that he led his ticket by several thousand votes. He refused to be a candidate at the last election, when he might have been chosen to serve another term.

Upon quitting the office of State Superintendent, he served for several years as Deputy Superintendent of Schools in San Francisco. Then he became principal of the Denman Grammar School for girls in that city. While under his instruction it ranked as the best grammar school in California.

While teaching in this school, he secured the repeal of that section in the school law of San Francisco, which provided for an annual election of teachers. He was so highly regarded by the members of the Board of Education, that though without official rank, his influence and recommendation secured the abolition of yearly elections, and the retention of teachers in their positions during good behavior. Civil service reform of the best kind.

Meantime he proposed the establishment of an evening school in San Francisco. He saw that there was a special demand for such a school, because there was in the city a large number of adults who had left the East with a very defective education, and who, during the earlier years of their residence in California, had found no opportunity, because there were no suitable schools, to increase their school attainments. At first Mr. Swett met with

strenuous opposition in his new enterprise, but he pushed ahead, and finally got his school. This school now numbers nearly a thousand pupils, and meets in the Lincoln school building, the finest in the city. The course of instruction ranges all the way from the simplest elements of knowledge to advanced technical studies required by artisans. The school is in session the whole year, and proves to be one of the most popular and useful in the city.

At present, he is head master of the Girls' High School, of San Francisco, which he is bringing to a high state of efficiency.

Mr. Swett is a man of strong characteristics; he takes hold on life with a firm grip. As an organizer, he excels. He is clear-headed, and bold enough to do his duty at all times as he understands it. There is no jealousy in his composition; he is modest, unassuming, but firm as a rock in what he believes to be right. He is generous and hospitable to a fault, as every person interested in education who visits California is certain to learn for himself.

The name of John Swett does indeed deserve to be written in clear letters, to be read and treasured by his co-workers of the East as by those of the Pacific shore.

THE compensation of college professors in France would hardly be considered adequate in this country for the services of men of such eminence. The salaries of the Inspector-General of Public Instruction, the professors of the College de France, and the professors of the Museum of Natural History have been recently *raised* to \$2000, and those of the professors of the School of Living Oriental Languages to \$1500.

THREE things are hard to carry out—an honest intention, a good thought, and a resolution to injure no one.

**THE MARINE MONSTER OF
ALAMEDA COUNTY.**

BY LORENZO G. YATES.

From the time of the earliest settlement of Alameda County by Americans, stories and traditions of the discovery of bones of the whale in the neighborhood of what is now called Livermore Valley, have been in circulation. We find the subject mentioned in the "Reports of Explorations and Surveys for a Railroad Route from the Mississippi River to the Pacific Ocean," made in 1853; and the story has been reproduced from time to time in "Notes of Travel," and descriptions of the country; while the attention of anyone who may visit the vicinity and exhibit any taste for, or desire to search into, the strange and curious in nature, will very probably be directed to the old-time story. Some of these discoveries have been bones of a mastodon, and an extinct species of the elephant, which from their size have been credited to the only animal which people generally would suppose to have lived in this latitude; some of the bones were probably correctly attributed to the whale, the writer having seen vertebrae of these animals which were found on the summits of mountains forming the range lying between the bay of San Francisco and the interior valleys hereinafter described.

Livermore Valley constitutes the south-easterly portion of the depression, which commencing on the south side of Suisun Bay crosses Contra Costa County in a southeasterly direction, forming an irregular chain or group of valleys connected together. Pacheco, Ignacio, Green, Sycamore and San Ramon, discharging their waters through Walnut Creek into Suisun Bay, while Amador, Livermore, Vallejos, Sunol, and Calaveras are drained by Alameda Creek and its tributaries, and discharge their waters into the bay of San

Francisco near Alvarado. This group of valleys separates the Monte Diablo range of mountains proper from the Contra Costa Hills, but the two ranges converge on the southerly side of Livermore Valley, forming the rough and comparatively unexplored region which culminates at Mt. Hamilton, at an altitude of 4,000 feet above the sea. This region which was formerly the rendezvous of Mexican banditti, and now but sparsely settled by stock-raisers, and occasionally visited by hunting and fishing parties, furnishes an interesting chapter to those who having learned something of nature's alphabet desire to read the history of ages long past, a portion of which is here spread out as in a book. But in this instance, as in many others, the title page, preface, and many of the earlier chapters have—like the partially destroyed volumes saved from a conflagration—been much damaged by the elements, leaving the illegible and indecipherable portions to be filled by conclusions arrived at by the study of contemporary formations, while the latter portion, though somewhat damaged by water, heat and chemical action may be satisfactorily deciphered by the exercise of care and patience on the part of the student.

Commencing our search for records of the history of the succession of the organic life of the region at the bottom of the scale, which in this instance is on the tops of the highest mountains, we find the older formations entirely metamorphosed or changed by heat and chemical action, leaving no record of life either animal or vegetable; retracing our steps toward the valleys, we find the same condition of the rocks for several miles. When within five or six miles of the southern edge of the valley by carefully scanning the rocks exposed by the cutting down of the creek channels and gulches, we discover an unaltered sedimentary strata which on close examination reveals an occasional leaf and

fragments of marine shells, and in which we finally discover a key to the age of this portion of our book; for, after breaking a large number of rounded nodules of indurated clay found imbedded in the sand and silt on the bottom of a former bed of the ocean, we find a fossil ammonite, which tells us that this portion of the book was written during the cretaceous period when the Pacific Coast States, west of the Sierra Nevada, were covered by the cretaceous ocean which extended to the foot of the western slope of the Sierras.

This vicinity affords *belemnites* and other shells of the cretaceous sea, together with fossil wood enclosed in hard concretions and leaves, and twigs forming thin seams of *lignite* rocks, alternating with a strata of sandstone and shale entirely barren of organic remains. The shells of this formation, in many instances, retain the original color and iridescence of the nacre of living shells.

From this point upward in the scale for some miles, we find only strata of sandstone tilted up conformably to the shell beds, showing that the entire formation has been raised from the bed of the ocean, the greatest uplift being on the southern line, in the region of the metamorphic rocks.

At a point about one mile south of the valley, we discover the line between the cretaceous and the more recent miocene; here we find evidences of animal life in great profusion. Shells of molusca, teeth of sharks, fossil wood, and other organic remains make up a large proportion of the miocene sandstone, and here the writer discovered the bones and teeth of the animal whose name furnishes the heading for this article. Among oysters of immense size, mussels, clams, and other molusca generally lying loose on the surface, weathered out by disintegration of the sandstone, fragments of teeth, the bones of an entirely new and undescribed monster had been lying un-

noticed on the summit of a rounded hill, from which the disintegrated portion of the sandstone rock had been washed and blown away by the winds and storms of ages. What is it? We examine the fragment: it has been worn away on one end and split longitudinally, showing the internal structure; it is evidently a tooth, perhaps of some huge reptile. We examine more closely; then other fragments are found, and we notice the teeth have the appearance of having been subjected to pressure, showing two and three flat sides at right angles with each other; other fragments from near the base of the crown of the tooth; these show that the root of the tooth did not extend downward as a continuation of the crown, but at the base of the flattened sides, the enamel or rather the exterior portion of the cusp folded back upon itself, and we are convinced that the tooth was compound and not a simple tusk, as at first supposed, and that the flattened sides of the pieces showed where the cusps had fitted up against each other, giving them the appearance of having been rolled up in bundles while in a plastic condition; next we find three of these cusps united together at the base, evidently constituting one side of the crown, indicating an approach to the molar of a mammal. Again, we discover portions of ribs and joints of the limbs, nearly as large as a man's head; and perfect joints of the vertebrae imbedded in the sandstone rock and conglomerate near the surface, also smaller bones of a fin or paddle; still we explore for more characteristic portions of the animal. After some months have elapsed, a friend, while resting on the summit of a steep bluff some half a mile from the original discovery, accidentally picks up an entire crown of a tooth, composed of six cusps united at the base, extending upward some three or four inches and fitted closely together, somewhat as we sometimes see cigars which have been bound together at

the ends while yet soft and pliable. One of our most eminent Eastern paleontologists, to whom this tooth was shown, at first thought that it belonged to some unknown animal allied to the mastodon, which had been carried into the ocean and distributed on its bed. But the situation and surroundings, together with the vertebræ and the bones, indicate a new undescribed *cetacean*, which flourished in the miocene sea, and has not been reported outside of Alameda County. Here the writer and others have found fragments scattered over a distance of from ten to fifteen miles, evidently by the action of currents east and west. It is easy to account for the destruction of the carcass by predatory fishes of the period in which the animal lived and died.

INTEREST BY CANCELLATION.

NUMBER TWO.

BY DR. T. H. ROSE.

In my last article I gave the general formula :

$$I = PxTxR$$

Developing a short and easy method of finding interest by cancellation, adapted to the comprehension of young pupils. Of these four elements any one may be found from the other three.

First. Interest, Time, and Rate given, to find Principal :

$$P = \frac{I}{TxR}$$

RULE.—Draw a vertical line with Interest in Cents on the right, Time in years, and Rate per year on left. Cancel.

1. What Principal will produce \$131 interest in 1 year, 1 month, and 3 days, at 1 per cent. a month?

393	131.00 Interest in cents
.360	Time in years
.12	Rate per year
	\$1000 Principal.

Cancelling 12 against 360 gives 30 on right. Thirty against 393 gives 10 on right and 131 on left. One hundred and thirty-one against 131.00 gives 100 on right. Ten times 100 is 1000—Answer.

ANALYSIS.—The interest on \$1 for 1 year being 12 cents, for 393-360 of a year will be 393-360 times 12 which after cancelling is 131-10. If every 131-10 interest requires \$1 Principal, then 131-00 interest will require as much principal as 131-10 is contained times in 131-00 which is 1000, the answer.

Considering this an example in Proportion, as all illustrations of Interest are, we would state it thus :

(c)	{ Prin. \$x	\$131 Int. (e)
	Years 393	360
		{ \$1 Prin. 1 Year } (c)
(e) Int. \$12		100

\$1000 Principal.

That is x Principal for 393-360 of a year is the cause of \$131 Interest, if \$1 Principal for 1 year is the cause of 12-100 dollars Interest.

By cancelling across the line as before we find x to equal 1000.

Second. Interest, Principal, and Rate given, to find the Time :

$$T = \frac{I}{P \times R}$$

RULE.—On the right of line place Interest in cents, on left Principal and Rate per year. Cancel and the answer will be Time in years or fraction of a year.

2. In what time will \$200 produce \$50 interest at $1\frac{1}{4}$ per cent. a month?

200	50.00 Int. in cents
.15	Principal
	Rate per year

$1\frac{1}{4}$ years. Answer.

ANALYSIS.—The interest on \$1 for 1 year is 15 cents—on \$200 it will be 200 times 15 cents or 3000 cents. If 3000 interest requires 1 year time, then 5000 interest will require $5\frac{1}{3}$ of a year time, which is 1 year and 8 months.

As an example in Proportion we would state it thus :

$$\begin{array}{c} (c) \left\{ \begin{array}{l} x \text{ years} \\ \$200 \text{ Prin.} \end{array} \right| \begin{array}{l} \$50 \text{ Int. (e)} \\ \$1 \text{ Prin.} \\ 1 \text{ Year} \end{array} \right\} (c) \\ (e) \text{ Int. } \$15 \quad 100 \end{array}$$

$1\frac{1}{4}$ years. Answer.

That is \$200 Principal for x years is the cause of \$50 Interest, if \$1 Principal for 1 year is the cause of \$15-100 Interest.

Third. Interest, Principal, and Time given to find Rate.

$$I = \frac{P \times T}{R}$$

RULE.—Place Principal and Time in years on left of line, and Interest on right.

3. I borrowed \$243 for 1 year and 4 months, and paid \$19.44 interest. Required the Rate.

$$\begin{array}{c} \text{Principal } \$243 \\ \text{Time in yrs. } 16 \end{array} \left| \begin{array}{l} 12 \\ 19.44 \text{ Int.} \end{array} \right.$$

.06 Rate. Answer.

ANALYSIS.—The Rate is the interest on \$1 for 1 year. If \$243 produces \$19.44 in $16-12$ years, \$1 will produce $1-243$ of \$19.44 in the same time, or 8 cents. If $16-12$ years produce 8 cents, $1-12$ year produces $8-16$ cents, and $12-12$ years produce $96-16$ cents = .06.

Considering this as an example in Proportion we would state it thus :

$$\begin{array}{c} (e) x \text{ cents Int.} \quad \$1 \text{ Prin.} \\ (c) \left[\begin{array}{l} \$243 \text{ Prin.} \\ 16 \text{ mos.} \end{array} \right] \left[\begin{array}{l} 12 \text{ mos.} \\ 1944 \text{ cents Int. (e)} \end{array} \right] (e) \\ .06 \text{ Answer.} \end{array}$$

That is \$1 for 12 months is the cause of x cents interest if \$243 for 16 months is the cause of 1944 cents interest.

By these formulæ and cancellation, pupils become proficient in the problems of interest in a few days, as they can by no other method of teaching. My next article will develop these principles in connection with Compound Interest and Partial Payments.

THE ORIGIN AND CURIOSITIES OF THE ARABIC NUMERALS.

BY D. V. T. QUA.

In an article on the "Origin of the Numerals," published in *The Popular Science Monthly* for January, 1876, the writer remarks: "Having never met with any explanation of the origin of the numerals, or rather of the figures symbolizing them, perhaps I am right in supposing that nothing satisfactory is known of it."

The history of the Arabic or decimal notation is somewhat as follows: The characters of this notation were introduced into Europe, during the tenth century, by the Crusades. From the Arabic, these characters have been traced to the sacred books of the Brahmins of India. It was long supposed that for our modern arithmetic we were indebted to the Arabians. But this, as we have seen, is not the case. The Hindoos communicated a knowledge of it to the Arabians, and we have been unable to trace it beyond the Hindoos: hence we must concede the honor to them of its invention.

To the Arabians, however, belongs the honor of introducing arithmetic into Europe. It was the Arabians who took the torch from the Orient and passed it along toward the Occident, when "westward the star of empire took its way."

The origin of the characters came, undoubtedly, from the fact that the Orientals first learned to count on their fingers and thumbs, and from this originated the ten characters, employed, and originally called digits, from the Latin word *digitus*, signifying finger. In keeping accounts among the Orientals, one mark represented

one finger, or number, thus: / . Two

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horizontal marks, with connecting line, stood for two, thus:  Three

horizontal marks, with connecting lines, would stand for three thus: 

and four marks in the form of a square or triangle, would stand for four, thus:  

Five marks in this form,  was the original figure five in this notation; six

marks, thus,  the original figure six.

The figure seven was made by marks representing two squares with one of the lines wanting, thus:  The figure eight

was made by placing two squares near each other, thus:  and nine by adding

one more mark to the two squares representing eight, thus: 

The zero, or cipher, was originally a circle, and seems to have come from counting around the fingers and thumbs. Hence, once around was denoted by one finger, or character,

representing one, thus:  and 

twice around, by  and  From

this last arrangement seems to have come the fundamental law of the decimal notation in which its superior utility consists, and upon which quite recently has been based the metric system of weights and measures.

By placing any of the digits in the place of the zero to make the numbers between ten and twenty, we have the law established. The science of arithmetic, like all other sciences, was very limited and imperfect at the beginning, and the successive steps by which it has reached its

present extension and perfection have been taken at long intervals, and among different nations. It has been developed by the necessities of business, by the strong love for mathematical science, and by the call for its higher offices by other sciences, especially that of astronomy. In its progress, we find that the Arabians discovered the method of proof by casting out the 9's, and that the Italians early adopted the practice of separating numbers into periods of six figures, for the purpose of enumerating them. The property of the number 9 affords an ingenious method of proving each of the fundamental operations in arithmetic, and it seems to be an incidental attribute of this number. It arises from the *law of increase* in the decimal notation. It universally belongs to the number that is *one less* than the radix of the system of notation. And in this connection it may not be irrelevant to state some facts or curiosities with regard to this number 9. It cannot be multiplied away, or got rid of in any manner. Whatever we do, it is sure to turn up again, as was the body of Eugene Aram's victim. One remarkable property of this figure (said to have been discovered by W. Green, who died in 1794) is, that all through the multiplication-table the product of 9 comes to 9. Multiply any number by 9, as $9 \times 2 = 18$, add the digits together, $1 + 8 = 9$. So it goes on until we reach $9 \times 11 = 99$. Very well—add the digits $9 + 9 = 18$, and $1 + 8 = 9$. Going on to any extent it is impossible to get rid of the figure 9. Take any number of examples at random, and we have the same result. For instance, $339 \times 9 = 3,051$. Add the digits $3 + 0 + 5 + 1 = 9$. Take one more, $5,071 \times 9 = 45,639$, and the sum of the digits, $4 + 5 + 6 + 3 + 9 = 27$, and $2 + 7 = 9$.

The French mathematicians found out another queer thing about this number, namely: if we take any row of figures, and reversing their order, make a subtraction,

and add the digits, the final sum is sure to be 9. For example, $5,071 - 1,705 = 3,366$; add these digits $3 + 3 + 6 + 6 = 18$, and $1 + 8 = 9$. The same result is obtained if we raise the numbers so changed to their squares or cubes. Starting with 62, and reversing the digits we have 26, then $62 - 26 = 36$, and $3 + 6 = 9$. The squares of 26 and 62 are respectively 676 and 3,844, and $3844 - 676 = 3,168$; add $3 + 1 + 6 + 8 = 18$, and $1 + 8 = 9$. This may be exemplified in another way. Write down any number, as, for example, 7,549,132, subtract the sum of its digits $7 + 5 + 4 + 9 + 1 + 3 + 2 = 31$, and $7,549,132 - 31 = 7,549,101$. Add these digits, $7 + 5 + 4 + 9 + 1 + 0 + 1 = 27$, and $2 + 7 = 9$.

But we have already extended this article to a greater length than we intended, simply wishing to give the origin and history of the decimal notation as far as it can be traced, and will close by stating that this notation is in every way adapted to the practical operations of business, as well as the most abstruse mathematical investigations. In whatever light it is viewed, the decimal notation must be regarded as one of the most striking monuments of human ingenuity, and its beneficial influence on the progress of science and the arts, on commerce and civilization, must win for its unknown author the everlasting admiration and gratitude of mankind.—*Popular Science Monthly for April.*

Good-Natured Firmness in School Management.

In order to manage a school well, one must be mentally superior to his pupils. If he is, there are many ways in which he may accomplish his object. The method he chooses will, perhaps, depend upon the mental make-up of the manager. Sometimes a sudden shock is the most salutary for clearing the atmosphere; again the gen-

tle-zephyr method is best; but the one surest to win and the most lasting in its effects is *good-natured firmness*. This is especially beneficial to those mischievous pupils who have no particular malice in their pranks.

A large river can no more be forded at noon, in the sunlight, than at midnight, in the darkness, but it makes a deal more comfortable impression in the light,—so a teacher, by being pleasantly firm, can accomplish his object with just as much certainty, and with far better effect upon the minds of his pupils, than by being sternly and forbiddingly firm. Good-nature is the sunshine of the school-room, and its influence there is scarcely less salutary than that of the real sunlight outside.

There is a teacher, in the country, near Decatur, Ill., who has a plan of deferring punishment, and who, *it is said*, in consequence, has a wonderful power over his school. A boy commits an offence and is brought before the teacher, who, after due investigation, says: “James, I shall be obliged to punish you, but you may be seated *now*.” In a week or so he calls James before him again and says in cheerful tones: “Did I not, a few days ago, promise to whip you?”

“Yes sir.”

“Very well. That will do for to-day. You may be seated.”

After another postponement or two, he calls the boy, and, with the utmost cheerfulness, whips him.

Now, if others, less wise, should attempt the same thing, though they might inspire dread, they would arouse such a vigorous hatred that their work, if not a failure, would be seriously impaired. In this case it was the certainty of punishment, coupled with that good-nature which no one can with-stand, that made this man successful.

In cases of vicious mischief I have found a good dose of honest indignation, vigorously given, exceedingly stimulating; but it may be doubted whether the same indignation might not have been good-naturedly expressed with better effect.—*DeGARMO, in The Illinois Schoolmaster.*

EDITORIAL DEPARTMENT.

On Examinations.

A portion of the local press of this State, are making rather savage attacks on the State Board of Examination on account of the papers furnished for the quarterly examinations. Our space does not permit an extended reply to the objections urged against the present system of holding examinations for teachers' certificates. Yet a few thoughts are suggested on reading an essay accredited to the City Superintendent of San Jose. From his remarks, we select some points pertinent to the subject, and probably including all that may be urged against the present system. He says :

"I believe it, after an extended experience, to be a consummate farce, doing great injustice to many competent teachers by refusing them certificates, and working an injury to our children by placing them under the instruction of impracticable book-worms, with no adaptation for the school-room."

Now whence does the Superintendent ascertain the competency of teachers; is it not by an examination, either oral or written? And which is more likely to be thorough and satisfying, his conversation with an applicant for two or more hours, or an exhaustive written examination? The latter will test, not merely that the would-be teacher is just one grade higher in culture and information than the child he is to educate. The weakness of our common schools is just here; many of our teachers are so near the children they are employed to teach, that, at the best, they are only

hearers of lessons and instructors, never educators. The Superintendent urges—

"It is not a true test of ability to teach, because many fail who have proven themselves to be good, capable teachers, and many succeed in obtaining certificates who have made complete failures, and whose only qualification is the ability to answer a stated number of questions."

Very true, but what is imperatively needed in our common schools, is those who will *combine* scholarship and ability to impart. One, without the other, is like a man with but one leg, better off than if totally deprived of limbs, but badly crippled for all that. The Superintendent further remarks :

"It is true that one should understand what he teaches, yet there are other qualifications just as necessary for success in the school-room. The teacher should be able to teach what he knows. He should be able to govern well. He should be able to thoroughly organize a school. He should have good use of the English language. And, above all, he should be the possessor of a good moral character."

Here, again, he "begs the point." No examination can ascertain all these things. Shall we, therefore, lose the benefits within our reach, because others are inaccessible? A hod-carrier may "be able to govern well," may "have good use of the English language; and, "above all," may "be the possessor of a good moral character," yet if this be all, he will be, after all, utterly incompetent—the veriest "stick of a teacher." The Superintendent in summing up reiterates : "First, The system is not a true test of one's ability to teach." Perhaps not; but what better test is possible?

Again, it is undeniable that it is the most perfect and satisfactory means of ascertaining, if not the ability to teach, at least the capacity of the teacher—his culture and the range of his knowledge. The remedy proposed by the Superintendent is the lamest and most impotent part of his argument. What does he propose? To abolish the whole system, which he condemns in so sweeping a manner? Not at all.

To keep on; examine as usual; only give the local Boards, the County and City Boards, power to get up their own examination questions. So at least, must we interpret the following:

"The remedy for all this lies in giving the Local Boards more discretionary powers. They must become responsible for their own acts. This would fix the responsibility of these examinations upon the County and City Boards, where it rightfully belongs. The local Boards would then be a little more particular to whom they refused a certificate, because they could not shift the responsibility of these failures on to the shoulders of the State Board, but would have to bear the responsibility themselves."

What improvement does the Superintendent propose to make by this course? Can he, for a moment, imagine that the seventy local Boards in California will construct better sets of questions than the present members of the State Board of Examination? An improvement *may be* made in the Superintendent's own city and county; would that argue a like improvement elsewhere? In fact the Superintendent knows that the system he advocates formerly prevailed in this State, and was then even more severely condemned than the present one. It was said publicly, justly perhaps, that teachers who had obtained a first or second grade certificate in one county, were often found incompetent to receive a third grade in another, where the standard was higher and the examination more carefully conducted.

That the State Board of Examination is not infallible, we may consistently admit. That various State Boards have at divers times, displayed some lack of judgment and a little pedantry in the construction of examination questions, may likewise be conceded. But who is to blame? The members composing these Boards are but human, and if the entreaties and tears of anxious and winning young "school marms" softened their obdurate hearts, and the adverse criticisms of such influential school-men, as the Superintendent of San Jose, caused them to swerve from the course which their better judgment dictated, are they altogether censurable? Moreover does not the Superintendent think that this whole matter can be as safely trusted to Dr. Carr, Prof. Allen, Mr. Swett, and Misses Watson and Michener as to any local Board in the State?

If this is his whole remedy for a score of imaginary evils, is it not really a case of a "mountain's labor bringing forth a mouse?" To us it appears that this whole matter of stringent examinations, carefully conducted by some central authority, is to the interests of parents and teachers alike. California needs a *well-trained* class of teachers, and not a too numerous class. And not only aspirants for certificates and educational honors, but those who hold the one and enjoy the other, will find it to their interest to elevate the teachers' calling. This surely cannot be effected by lowering the standard for admission to the professional ranks.

As a body, the teachers of California compare favorably with those of the oldest and most enlightened states of the Union. They are exceptionally fortunate in having long school terms and excellent salaries. The best guarantee that these advantages will continue, is in preserving their present high state of efficiency.

To Our Subscribers.

The labor and expense of publishing a good educational journal, are by no means light. This we knew ere we undertook our enterprise. But we depended on the intelligence and public spirit of the great body of our teachers. Nor have we been disappointed. Wherever we have encountered true educators, personally, or through this journal, they have subscribed. Now, we have one more favor to ask of those who are already our subscribers. And we trust these lines will be considered by each of them as a personal appeal. We want them to represent us; to act for us wherever their influence extends, and that, even now, is all over this State. Will they use the influence which we know every one of them possesses, to procure us additional subscribers? If each of them will send us two new names, it will establish this journal firmly and enable us to keep it at its present high standard. We hope every subscriber will do all this for the sake of establishing an educational journal in California, which shall be the organ, not of cliques and politicians, but of the collective body of teachers. One word more. Correspondence from teachers and trustees is solicited. Inquiries in reference to schools and school affairs will be answered. Teachers, who have suggestions to make for the benefit of their fellow-laborers, will gladly be accorded space in our columns. We hope teachers will *wake up*, and soon we shall have a first-class educational revival in our midst.

Spelling Reform.

California teachers, who have read, with approval, Mr. Kay's articles on "Improvements in Written Language," may not be aware that there is an association organized to effect the reform indicated in that essay. It was organized at the meeting of the

International Convention, in Philadelphia, August 14-17, 1876, under the name of the SPELLING REFORM ASSOCIATION. The following extract from the Constitution may prove of interest:

"The object of this Association shall be the simplification of English Orthography. To this end it will secure the delivery of addresses; publish articles, circulate books, pamphlets and charts; endeavor to introduce the reform in schools; and in all proper ways, as far as the means at its disposal will allow, will urge the matter upon the attention of the people."—*Constitution, Article 2.*

The officers are : President—FRANCIS A. MARCH, LL. D., Easton, Pa. Vice-Presidents—S. S. HALDEMAN, LL. D., Chickies, Pa.; W. D. WHITNEY, LL. D., New Haven, Conn.; HON. W. T. HARRIS, LL. D., St. Louis, Mo.; C. K. NELSON, D. D., Annapolis, Md.; E. B. JONES, B. A., Liverpool, Eng.; ELIZA BOARDMAN BURNS, New York. Secretary—MELVIL DEWEY, Boston. Treasurer—REV. D. P. LINDSLEY, Pa.

The association held a meeting in New York in the latter part of April. Accounts of the proceedings came to hand too late for publication this month, but a full report will appear in our June number.

Miss Kate Kennedy, Principal of the North Cosmopolitan Grammar School of San Francisco, is a member of the association, and the representative, for the Pacific Coast, of the Executive Committee.

We hope to induce California teachers to take an active interest in this exceedingly important subject.

Agents Wanted.

We want agents for the JOURNAL in every County and Township in the State. Exceedingly liberal terms will be made with Superintendents and Teachers who will act for us in that capacity. We desire to make an active and thorough canvass of city and country from Del Norte to San Diego, and capable, active teachers will find it to their interest to address us on the subject immediately.

GENERAL NOTES.

Eugene Lawrence, well known to the readers of Harper Bros. publications, for essays breathing the most uncompromising opposition to ultramontanism, and an ardent love for civil and religious liberty, publishes an able article in "Harper's Weekly," of March 31st, advocating the inauguration of a system of National Education. After speaking of the recent rapid educational progress in France and England, he makes a number of practical suggestions, which we condense, as follows: "The proper time has come—it has, in fact, always been at hand—to discuss and carry out this important measure. The State governments have failed in many sections to educate the people. Even in some of the older States of the North, the teachers are badly paid, the schools indifferent. A confused, indefinite idea of what education should be, prevails over the Union. A mass of sectarian schools, charity schools, monastic schools, and places where knowledge is only faintly inculcated or diffused, spreads over us an imperfect teaching.

Of what character a national education should be, to what subjects directed, in what paths the minds of the people must be guided, how knowledge is to be made the chief support of republican progressive institutions, are questions that may well employ the intelligence of the new generation, and should form the themes of popular discussion in every portion of the land. In England an Educational League has long existed, which has agitated the whole country with meetings, addresses, lectures, pamphlets, tracts; and several rival associations of a similar nature have aroused the interest of the people in the cause of knowledge. Such a league, such associations, might well arise in every city and village of our land. A national education should also be an industrial one. It should teach the mechanical pursuits, manufactures, farming. It is not only the opening to literary cultivation that our schools should offer; the practical business of life can not be too early began. A wide field of valuable labor lies before us. We have to retrieve the past, and outstrip Germany, France, or England in the pursuit of mental equality. Let our young men and young women take up the cause of knowledge, discuss the sources of our failure, restore the good name of freedom, renew the Republic."

Many commodious and well-ventilated school-

houses have lately been erected in London, England. They are said to be both costly and complete in all educational appliances; in addition, they are provided with extensive playgrounds, something almost unknown in any of our large American cities. There has been great progress in education in England within the past six years, and in London, particularly, the School Board has performed an immense work. There were at that time one hundred and fifty thousand children, who could not obtain, no matter how great their anxiety, any opportunity to get free schooling. Now, all who desire, may thus acquire the rudiments of an education.

From "Harper's Weekly" we copy the following:

"Professor Theodore B. Comstock, of Cornell University, well known in connection with similar enterprises in previous years, proposes to establish a school of natural history on a steamer, to make a tour of the Great Lakes for the purpose of visiting points of interest, and of obtaining such specimens of natural history as may be needed for the biological researches of the organization. This will start about the 5th of July, from either Buffalo or Cleveland, passing along the south shores of the lakes, and west into Lake Superior, and thence along the northern shore of the same waters. The geological instruction and general direction of the expedition will be under Professor Comstock. Competent professors will also accompany the expedition, for research in their respective departments. The expenses of the expedition are to be met by an assessment of members of the association, and series of the specimens obtained will be furnished at moderate rates to colleges and academies. The trip will continue for thirty days, unless the majority of the members of the party desire to extend it."

This State offers unusual facilities for some expedition of this kind. There is Yosemite, the Big Trees, Lake Tahoe, Clear Lake, San Francisco Bay, etc. One of the University professors, or some cultured, energetic public school teacher, could, with ease, organize a party of teachers to one of these points during the June vacations, combining recreation and the highest order of instruction.

One of America's greatest educators has lately passed away. The subjoined sketch of his labors may prove interesting: Professor Hart won distinction as an author, and an editor. For several years he was principal of the Philadel-

phia High School, and in the last years of his life, professor of English Literature and Rhetoric in Princeton College. While employed for forty years in the work of education, his pen was always busy. His first considerable work was a series of lectures on Spencer's "Faerie Queene," in which he displayed a fine critical taste. For eleven years—from 1860 to 1871—he was editor of the "Sunday School Times," a weekly paper which has done much in promoting the recent extraordinary growth of the Sunday-School system in the United States. He also published volumes on "The Sunday-School Idea," "Thoughts for the School-Room," and "Life Lessons for the Gospels." One of the most versatile of men, Professor Hart was one of the most modest. Few American scholars have made their lives more useful.

Every one who is interested, whether as instructor or pupil, in classical study, will be glad to learn that Professor G. M. Lane, of Harvard, has placed in the hands of his publishers the MS. of a new Latin grammar, designed for schools and colleges. Professor Lane has been engaged several years in its preparation, and his high reputation as a scholar and a teacher is a guarantee that it will be a work of great practical value. It will be published by Harper & Brothers, in a neat and convenient form.

Many of our General Notes, are taken bodily, or with slight changes, from the Harper's publications, which, we fear, are not read by teachers on this Coast, as generally as their merits deserve. Harper Brothers are the staunch and consistent friends of our common schools and their teachers, and have ably and vigorously defended the former from the assaults of their enemies in New York. George William Curtis, the editor of the "Weekly," advocates the pensioning of public school teachers, after faithful and continued service.

The normal percentage of carbonic acid in the atmosphere is about 3.34 parts by volume in ten thousand, while, according to Petenkoffer, an apartment should contain not more than ten parts in the ten thousand. Schultz, however, makes the maximum of a healthy proportion rather higher, increasing to eleven or twelve parts, while he has found thirty-seven parts in a club-room, and fourteen to thirty-five and a half parts in school-rooms.

An item in "Harpers' Weekly" says, Professor Torell, of Stockholm, thinks there is strong

ground to believe in the close connection between the Esquimaux and the Japanese.

Mr. Charles Wolcott Brooks, in a lecture before the Academy of Sciences of this city, in 1875, presented many strong arguments in favor of the belief that the Indians of Western America were the progenitors of the Chinese and Japanese. The lecture will probably be published by us at an early date.

A good deed has been done by the owners of the Pacific Coast Pavilion, which represented the States of California and Nevada in the Centennial Exposition. It has been given, in the name of these States, to the managers of the children's Free Excursion Fund of Philadelphia. Removed to East Park, it will be the temporary home, during a part of each summer, for the poor children of the city.

Mrs. Caroline Webster Day, a granddaughter of Daniel Webster, is preparing a life of the great statesman, which will present his every-day experiences at Marshfield, together with anecdotes of him which have never been made public.

ITEMS FROM COUNTIES.

SAN FRANCISCO COUNTY.

After a thorough investigation into the methods and results of teaching French and German in a number of the San Francisco schools, the Committee on Cosmopolitan Schools, at a meeting of the Board, held in April, submitted an extended report. Its adoption, we believe, will obviate one of the greatest objections to teaching the languages in our schools, i. e. the extra expense. The efficiency of the corps of special teachers will also be increased, as greater responsibility will entail upon them. The report follows:

"The Committee on Cosmopolitan Schools submitted the following recommendations for the consideration of the Board: That the South Cosmopolitan Primary and Grammar, the Bush Street Primary, the North Cosmopolitan Grammar, the Greenwich Street Primary, the Valencia Street Grammar, the Girls' High School, and the Boys' High School be classed as Cosmopolitan Schools, and that French and German be taught in no others. That pupils shall be permitted to study French and German only after a written application from parents or guardians, accompanied by a promise that the study shall not be discontinued before the end of the school year. The Committee favor the plan now being tried in the Bush Street Primary School, by which teachers are employed who are qualified

to teach either French or German to their own classes, in addition to the English branches. They recommend, also, that in all Cosmopolitan schools, except the Boys' and the Girls' High Schools, one teacher of German be employed for every four classes, to be regularly in charge of one class that shall be known by his name, and in which he shall teach German during the first and last hours of the session, devoting the intermediate hours to the other three classes. The special teachers in the Boys' and the Girls' High School to be continued. Not less than twenty pupils to constitute a class; less than that number to be permitted to leave the room and recite in other classes. The report is signed by Messrs. Von Rhein, Tait and Hagan, and was laid over until the next meeting for action.

Pursuant to notice, the Grangers' Educational Convention met in Grange Hall, on the evenings of April 9th and 10th. The attendance was very large, including not merely members of the order, but prominent educators, and a number of well known citizens. The following resolutions were taken up, and after some discussion about their indefinite postponement, were laid on the table:

Resolved, That an education which leaves the pupil without ability to make a good living after getting his school diploma, is wrong in principle, injurious to individuals, and dangerous to society.

Resolved, That we are in favor of labor education, that will prepare and fit our boys and girls for industrial pursuits actually necessary for the good of the children and the prosperity of the nation.

Mr. Thompson offered this resolution, which was unanimously adopted:

Resolved, That a committee of seven be appointed to examine into and report at the next meeting of the Convention, upon the status of the several departments and branches of the public educational system of California, to the end that evils, if they exist in the same, may be clearly seen, and remedies, if such there may be found, be recommended.

The Chair appointed as such committee, A. W. Thompson, Professor Hilgard, General A. M. Winn, Rev. O. P. Fitzgerald, I. C. Steele, J. W. A. Wright and Mrs. Ezra Carr.

A general discussion then ensued upon the subject of education, which was participated in by Rev. O. P. Fitzgerald, Professor Hilgard, J. Earl, A. W. Thompson, Mr. McChesney, Professor Sill, Professor Kellogg, C. E. Pickett, J. W. A. Wright, Mr. Hallett and others. The speakers were pretty much of one mind so far as regards the defects of the present system of public school education, but there was a wide divergence of opinion as to the causes of these defects.

The committee above appointed will meet on Tuesday, April 24, at Grange Hall. The Convention adjourned to meet again on May 8th, at the same place, when the committee's report will be submitted and the discussion continued.

During the past month, six half-day classes have been organized in this city. For the benefit of teachers in the interior, who may not know what these classes are, we will explain: Where the number of applicants for admission to a school is greater than can be accommodated, the class is divided, and one portion attends school for three hours in the forenoon, the balance for the same time in the afternoon. So there are really two classes or schools, each having a three hours' session. As this is one hour longer than the regular session in most cities, the teacher receives an extra compensation of about twenty dollars per month. The plan is highly recommended, as it is stated that the children make as much progress in the three hours' session as they formerly did in five. As two sets of children, each fresh and eager to learn, cause a severe drain on the teacher's nervous energy, only those teachers who have proven themselves capable, and possessed of considerable vitality, are elected to the positions. As the salary is \$100 per month, they are much sought after. To Superintendent F. M. Campbell, of Oakland, is due the credit of having introduced the system into the State.

The Board of Education have taken into consideration the advisability of establishing a Central Public School Library, similar to the one in St. Louis. There are about eight thousand volumes in the different school libraries; and it is proposed to consolidate all these and place them in some central location, probably the old, Boys' High School building, now unoccupied. A librarian is to be appointed, and all children attending the public schools are to have free access.

Prof. W. T. Reid, Principal of the Boys' High School, is one of the committee appointed by Hon. Horace Davis, to examine applicants for the cadetship, at the Annapolis Naval Academy.

A resolution to build a new eight-class building, was passed at the last meeting of the Board, held in April. It is to be located at the Potrero, corner of Napa and Kentucky streets.

The Union Grammar School, heretofore exclusively for boys, has been changed to a mixed school.

Mrs. L. K. Burke was elected Vice-Principal of the South Cosmopolitan Grammar School, in place of Mrs. Mary W. Kincaid, transferred to the charge of the Normal Class in the Girls' High School. Mrs. Burke has filled the position for nearly a year since the transfer of Mrs. Kincaid, very ably and acceptably.

Miss E. Stinson, on April 10th, was elected Principal of the Fourth and Clara Street Primary School.

ALAMEDA COUNTY.

"May-Day"—vacation and picnic in most of the schools.

Miss Marie Perdriz was elected teacher of French in the Oakland Cosmopolitan School.

The California Sunday School Convention hold their annual meeting in Oakland, this year, on May 1st, 2d, and 3d.

The funeral of John H. Carr, son of State Superintendent Carr, took place in Oakland, on the morning of April 12th,

Dr. Dio Lewis lectured on "Our Girls," before a large audience, in the First Congregational Church, at Oakland, on Monday evening April 9th.

A new school-house has been finished near Piedmont White Sulphur Springs, about three miles from Oakland, and will be occupied about May 13.

The pupils of Miss Lulu Kervan's West End School gave an afternoon exhibition on April 6th, which was well attended by parents, and friends of the school.

Among the recent graduates from the State Normal School, are four from Alameda County; Misses Modena Baker, Mary Brown, Allie P. Overacker, and Ruth Roesy.

Berkeley is growing so rapidly that new school accommodations have been asked for by the people of that vicinity. A new district will be immediately organized and a new school building erected.

Since the establishment, twelve years ago, at Benicia, of Mills' Seminary, and its subsequent removal to Brooklyn, twelve hundred young ladies have been enrolled as pupils, of whom one hundred and forty have graduated with high honors.

The Hayward School, under the principalship of A. C. Bloomer, is in a very flourishing condition. The school numbers 239 pupils on register in four departments. A High School course has been adopted for a portion of the Principal's department.

Prof. J. B. McChesney, principal of the Oakland High School, delivered an interesting lecture on the "Study of Fine Arts," before the public assembly of the University of California, on April 8th. The audience was a large and appreciative one, and the lecture is highly spoken of.

SONOMA COUNTY.

The school-house of the Marin District is one of the best in Sonoma County. It has a good library, but is not yet supplied with new furniture. The school is under the tuition of Miss Nellie Morehouse, an energetic, competent teacher.

Certificates were recently issued to Sonoma County applicants as follows: First Grade—Mrs. H. E. McCulloch, D. C. Clark, C. G. Sullivan, Jennie E. Davis. Second Grade—Hannah E. Stone, and Emma Robinson. Third Grade—Ida M. Clayton and Mary G. Stone.

The Liberty District School is in charge of Miss Jenny Anthony. Both Board of Trustees and teacher, are wide-awake and active.

In Waugh School District, the school-house is about four miles from Petaluma and serves the double purpose of school-room and place of religious worship. The number of children in the district is fifty-four. C. S. Farquar is the teacher, and the school is in excellent condition under his management.

A. C. Kellogg, formerly of the Golden Gate Academy, Oakland, is in charge of the Iowa District School. This school has rather more apparatus than the generality of County schools. Mr. Kellogg has succeeded in arousing an active interest, in school and out, on the part of parents and teachers.

SAN MATEO COUNTY.

Charles R. Gray, formerly of San Bruno, opened the Seaside School about April 1st.

The Redwood City schools have closed for four weeks' vacation. Rather early in the season.

Charles L. Neill, assisted by Miss J. Hoyt, has assumed charge of the San Mateo School in place of Mr. and Mrs. B. E. Hunt.

Miss Laird, the popular teacher of the La Honda School, has been reelected for the coming year.

Purissima School District, in this County, voted this month to build a new school-house. Operations are to begin immediately.

We owe any number of items to the *People's Journal*, of Redwood City. It is one of the finest, of the interior papers—first-class as regards typographical appearance and literary conduct.

The well known Arguello family, in the West Union School District, having donated a good school lot to the District, some time since, the trustees immediately proceeded to put up a good school-house. The building has just been finished and is ready for occupancy.

SOLANO COUNTY.

It speaks well for the high moral character of the County superintendents of California, that with considerable sums of money constantly passing through their hands, not a dollar has been lost to the State by defalcation. The law is in many respects lax, and opportunities certainly have not been wanting for peculation; yet, we have failed to hear, within our experience of fifteen years, of the reputation of any one of them being assailed by even a breath of suspicion. This speaks well for them, and for the great body of teachers from whose ranks they are generally chosen.

The Grand Jury of this county, ambitious, evidently, to distinguish themselves for extraordinary vigilance and zeal, made a report early this month, containing the most sweeping charges against a number of the County officials. Among those whose official career was closely scanned was the County Superintendent of Schools, C. W. Childs. This gentleman, immediately upon the report being published, asked for a most thorough investigation. This has been made, and, so far as disclosing any mismanagement or dishonesty in the financial administration of his duties, proved the confidence of the people of Solano County to be not misplaced, when they reelected him to the County Superintendency, two years ago. We have not space for the letter to the *Vallejo Chronicle*, containing the complete exoneration of Superintendent Childs, but we will say

that it meets in detail every charge or insinuation made by the Grand Jury, and shows that with the exception of a few clerical errors, not one charge can be sustained as having the slightest foundation. What possible motive the Grand Jury could have, we fail to see.

SACRAMENTO COUNTY.

Sacramento has a fine school department, but the Board are rather behind the age in this respect.

The Sacramento Board of Education has refused to introduce a Commercial Department into the High School.

County Superintendent F. L. Landes has apportioned the money in the County School Fund, amounting to \$6,755.84, among the districts of the County.

There has been quite a "run" on the State Treasury this month, caused by the different County Treasurers each drawing his quota of the School Fund.

The pupils of the senior class of the Sacramento Grammar School, of which Prof. McDonald is Principal, had a delightful picnic to Wilson's Grove, about nine miles from Sacramento, on Saturday April 14th.

Prof. McDonald evidently believes that there is an education besides that obtainable within the four walls of a school-room.

CONTRA COSTA COUNTY.

The Walnut Creek School, conducted by Mr. Pearson, as Principal, and Mrs. Pearson, Assistant, is well attended and in a very flourishing condition. Walnut Creek is a beautiful little village and shows signs of activity and prosperity.

On April 5th, the Martinez Educational Aid Society had a pleasant party at the Masonic Hall in that place. It was a success, not merely in a financial point of view, but in bringing teachers, parents and children into pleasant social relations.

The Alamo School District in this County, has a pretty school-house, consisting of two good class rooms; two teachers are employed, and the school has a high reputation. The school grounds consist of two and a half acres of land, well laid out in gum and evergreen trees. In this respect, the school is very fortunate, as the art of making attractive school surroundings, has not yet been found in California.

HUMBOLDT COUNTY.

Mrs. Tunnell has reopened her private school in Eureka. She is said to be a very competent teacher.

Mr. E. B. Greenough has been engaged to take charge of the Jacoby Creek School, for the coming term.

Mr. J. M. Eddy, last year in charge of the Table Bluff Public School, has assumed charge of the Salmon Creek School.

Mr. Ashton, who has been conducting the Eureka Academy, has accepted the principalship of the Table Bluff Public School.

The teachers elected in the Ferndale Public School, for the ensuing year, are P. S. Inskip, Principal; Misses E. Burness, and A. F. Tansen, assistants.

SAN JOAQUIN COUNTY.

The Supreme Court decided in the case of Crawford vs. Dunbar, involving the office of Superintendent of Schools of San Joaquin County, that neither of the contestants is entitled to the position. Mr. Dunbar, who has been acting Superintendent for over a year without drawing any salary will probably be appointed by the Board of Supervisors and his back salary paid.

YUBA COUNTY.

The Teachers' Institute, held during the past week, closed on Friday evening with a very interesting and instructive lecture by Dr. Carr, Superintendent of Public Instruction. Dr. Carr was introduced by E. K. Hill, Principal of the High School, who prefaced the introduction by a short address to the teachers, concerning the necessity of paying more attention to the subject of "Morals and Manners," and showing the imperative necessity of precepts being accompanied by example. The subject of Dr. Carr's lecture was, "What Should be Taught in Our Public Schools," which was aptly and ably illustrated by numerous examples showing our ignorance of many objects immediately about us, while we fritter away much precious time in gathering information about things having no reference to the affairs and necessities of life.

CALAVERAS COUNTY.

The County Teachers' Institute for this county meets in San Andreas, May 9. As the exercises of the Institute are to be conducted by Professor Allen, of the State Normal School, an unusually interesting session is expected.

All the school districts in the county have obtained Swinton's Language Primer, and Language Lessons, and a majority of the teachers are greatly pleased with them.

The Teachers' Institute.

HELD AT ST. HELENA, NAPA COUNTY, CALIFORNIA, APRIL 10 TO 13, 1877.

First Day.

The Teachers' Institute convened Tuesday according to announcement. A full delegation of teachers put in an appearance, and the Principal's room of the public school was well filled with the Institute and its visitors. An organization was held at 10:30 and the following named gentlemen chosen to assist Superintendent Fellers, ex-officio Chairman; H. C. Gesford, Secretary; C. T. Wood and N. A. Morford, 1st and 2d Vice-Presidents. On motion, a short recess was had, after which the Chair appointed the following committees:

MUSIC.—Misses M. Stone, L. J. Maguire, E. Wallingford, and Mr. C. T. Wood.

RESOLUTIONS.—Messrs. H. C. Wilson, B. Wolverton, and Miss M. Jewett.

PROGRAMME.—N. A. Morford, E. Everts, A. D. Butler, Misses L. Cheney, and E. E. Ebersole.

INTRODUCTION.—Miss C. L. Smith, Messrs. L. E. Wood, H. L. Garfield, H. C. Gesford, and E. Everts.

The names of the teachers present were taken, and fifty-three names, including the entire corps of teachers in Napa County were taken.

Mr. Whitehead was appointed general reviewer, with Misses L. Maguire and C. L. Smith assistants. State Superintendent Carr, who had been

placed on the programme for a lecture that evening, sent word that, owing to the sad occurrence of the death of his son, he would not be able to attend. A committee was appointed to arrange some entertainment for the evening.

AFTERNOON SESSION.—The afternoon was begun, after appointing Miss Cheney critic for the afternoon, by an essay on "Our Institute," by Miss Maguire, which is pronounced very good. C. T. Wood then opened a discussion upon grammar, in which he was followed by Prof. Smith and H. C. Wilson. A short recess was then granted, after which Miss Stone favored the Institute with an essay upon Natural History; Mr. Wolverton took up the subject of auxiliary verbs, and the regular exercises of the afternoon being concluded, the committee on evening exercises reported. A dance was proposed, but was defeated by an overwhelming majority, and it was finally agreed to spend the evening at the school-house in literary exercises.

EVENING SESSION.—The evening was begun by questions—generally grammatical subjects—which, finally growing monotonous, the meeting resolved itself into extemporaneous declaiming, and produced some very fine efforts. Messrs. Wilson, Baker, Morris, and Gesford declaimed—that by Mr. Morris, on "The Student," being particularly spoken of.

Second Day.

MORNING SESSION.—Institute opened with the usual preliminaries. Miss Annie Shaw was appointed critic of the day. The programme for the morning session was then introduced by a song from the Institute, after which Mr. Tinning read an essay on "The Cultivation of Taste," which is highly spoken of. H. C. Wilson then opened a discussion on "The Course of Study," being followed by Superintendent Fellers, C. T. Wood, N. A. Morford, E. Everts, and others upon branches of the same subject. After a recess, J. M. Alley read an essay on "Our Text Books." Prof. Allen, of the State Normal School, having arrived, was then introduced by the Chairman.

AFTERNOON SESSION.—Opened as usual with a song, after which E. A. Parker read an essay on the "Cultivation of the Moral Element." Prof. Allen opened a discussion upon the conduct of recitations, in which he was followed by several members of the Institute. After recess, Miss Lottie Woods read a literary selection, and Prof. Allen discussed "School Discipline."

THE LECTURE IN THE EVENING.—The lecture

in the evening by Prof. Allen, at the Presbyterian Church, drew a full house, and was listened to with marked attention throughout. The speaker's remarks were instructive as to the modes of teaching, and previous preparation of children before entering school.

Third Day.

The day opened with a song, after which the calling of the roll and reading of the minutes, when Miss Smith read an essay, and Prof. Allen lectured on the subject of arithmetic, illustrating by blackboard examples and a singing method of committing the multiplication table. A recess then followed, after which a song, then a declamation by Miss J. L. Jewett; then another song and an essay by H. Bateman on the subject of "Reading," which was very fine.

AFTERNOON SESSION.—The afternoon session was opened with the usual preliminaries, after which A. W. Eddy delivered a recitation in very fine style, and Prof. Allen lectured on Geography, dwelling upon the general methods of teaching. Recess then followed, after which a song, and Mrs. Hull read an excellent essay on "The True Teacher," faithfully depicting him in his most trying hours, and in a style seldom equalled by the great writers of the day. A select reading by Miss Boggs on "School Statistics," was then given, which was very fine and was warmly applauded. She introduced a Hibernian character, which was faithfully delineated, and brought down the house. A series of questions were then propounded by Prof. Allen, which put the teachers to their mettle to answer. By general request, Daisy Clock, one of our brightest little scholars, then delivered a recitation in her usual fine style, after which the Institute adjourned to accept a very courteous and welcome invitation from various citizens of St. Helena, to take a drive around the beautiful suburbs of the town.

Fourth Day.

Institute came to order at 9:7. Song, calling the roll, reading the minutes; Mrs. Mary Mitchell appointed critic for the day. Mr. N. A. Morford read an essay on Natural History, proceeding in a most scholarly manner and illustrating by specimens which were passed around the audience. His effort was warmly applauded. An essay by Miss Patchett followed, after which Prof. Allen lectured on Arithmetic; illustrating, as yesterday, by operations on the blackboard. He requested the teachers present to provide themselves with paper and pencils, and gave them examples to work. A recess of ten minutes fol-

lowed, after which a song, "I'll Paddle my own Canoe," (very fine) and remarks on Penmanship by Superintendent Fellers, illustrated by standing on a chair.

AFTERNOON SESSION.—Miss Sadie Jewett read an essay on Language Lessons, pronounced by all present very good. A declamation by Miss Wallingford followed. A lecture by Prof. Allen was now announced, and on motion the subject was changed from the intended one of History to Reading, the latter seeming to be the Professor's favorite. The principal feature of the lecture was the selection of fourteen teachers from those present, and taking them through a series of drills. The reading of several members was excellent, especially of Mr. Wilson and Miss Wallingford. An essay by Miss Bean followed, which was well rendered, and judging from frequent bursts of applause that interrupted her remarks, was a subject pleasant to all. After recess Prof. Allen took occasion to express his satisfaction at the conduct of the Institute, and extended an invitation to its members to visit the institution presided over by him—the State Normal School. The Committee on Resolutions then reported the following:

Resolved, 1. That in the meetings of these Institutes there should be more practical work and blackboard exercises, less talks and fewer essays. 2. That each teacher, on commencing work next Monday morning put the children, of at least the lower classes, squarely upon that course of studies prescribed by the State Board of Education. 3. That there should be in the common school a greater number of exercises. 4. *Resolved*, That as a company of fellow-teachers we deeply deplore the deaths of C. V. Roche and J. C. Sutherland, two of our best companions in arms, and we hope we may all be able to leave as good records in the hearts and lives of friends and pupils. 5. That we tender our thanks to Prof. C. H. Allen, of the State Normal School, for his suggestive instructions and entertaing lectures. 6. *Resolved*, That we thank the press of the town for so kindly and respectfully noting the proceedings of this Institute. 7. That we tender our heartiest thanks to the genial and hospitable people of St. Helena for having opened, not only their hearts to us, thereby rendering our stay both pleasant and comfortable; that the thanks of this Institute be tendered to those hospitable citizens of St. Helena who so kindly placed carriages at our disposal for a ride Thursday evening.

H. C. WILSON,
Chairman of Committee on Resolutions.

The announcement that the exercises of the evening would conclude the meetings of the Institute held at this place, and also that Prof. Knowlton, of San Francisco, would give some

select readings, drew forth a large number of visitors for the evening exercises. The meeting was called to order by Superintendent Fellers, and after some preliminary exercises Mr. Knowlton gave the audience a very interesting programme of readings, in his usual excellent style. At the conclusion of the evening's programme, Superintendent Fellers stepped forward and made a few appropriate remarks, which were well received, after which the meeting was declared adjourned.

Examination Papers.

5.—GEOGRAPHY.—50.

[*Perfection in each of the following counts ten.*]

I. ASIA.

1. Name the five mountain chains of Asia.
2. Locality and depth of its greatest depression.
3. What are Monsoons?

II. AFRICA.

1. Climate of Equatorial Africa. Why?
2. Why is the Sahara dry?
3. Name three distinguished African explorers.

III. EUROPE.

1. Which are the highest mountains? How high?
2. What and where are glaciers?
3. Present government of France, Spain, Switzerland, San Marino, Andorra?

IV. AMERICA.

1. Name the five chief rivers of North America? Of S. A.?
2. Why is Southern California so dry?
3. Name the Pacific Railroads, complete and incomplete.

V. MISCELLANEOUS.

1. What is the favorite route of Arctic expeditions?
2. What was the "cyclone" that recently devastated India?
3. Name the five leading commercial cities of the globe.

THEORY AND PRACTICE.

1. Give, as to a class, definite directions for reading poetry.
2. State a course of drill for five daily exercises in vocal culture.
3. State in detail how you would use a globe during the second school year.
4. Name five living distinguished American teachers and educators.
5. Name two English Educators, two German, one French, one Swiss.
6. State the five most important rules of health that you would impress upon the minds of children.
7. State the particulars in which, to some extent, the teacher is responsible for the health of children.
8. Name in detail the "perceptive faculties."
9. "The grateful son saved his father's life this morning." Write five questions upon this sentence, such as you would ask of a primary reading class.
10. State in detail the work in arithmetic for the first school year.

MENTAL ARITHMETIC.—50.

[Twenty-five questions. Two credits each.]

Allow from $\frac{1}{4}$ to $\frac{1}{2}$ a minute for each question.

1. $7\frac{1}{2}$ is $8\frac{1}{5}$ of what number?
2. Cost of $7\frac{1}{2}$ lbs of beefsteak at $12\frac{1}{2}$ cents a pound?
3. At $\frac{1}{2}$ cent apiece how many apples can be bought for \$12?

4. How many times is a half dollar contained in a quarter of a dollar?
5. How many ounces in $2\frac{1}{2}$ lbs of gold.
6. Cost of a doz. pencils at $6\frac{1}{4}$ cents apiece?
7. Cost of 2,000 lbs of wheat at $1\frac{1}{4}$ cents per pound?
8. Cost of 1,200 lbs of bacon at $16\frac{1}{2}$ cents per pound?
9. What part of 5 is $\frac{3}{5}$?
10. Divide $128\frac{1}{2}$ by 3.
11. Multiply the decimal .05 by 5.
12. Divide .25 by .005.
13. Change $\frac{5}{8}$ to a decimal.
14. Divide $\frac{3}{4}$ by $\frac{1}{2}$.
15. Divide \$500 by half a cent.
16. What per cent. of 5 is 4?
17. What per cent. of $\frac{1}{2}$ is $\frac{1}{4}$?
18. What is $12\frac{1}{2}$ per cent. of \$1,600?
19. Find 75 per cent. of 120.
20. Find $66\frac{2}{3}$ per cent. of 1,500 miles.
21. What is the amount of \$480 plus 25 per cent. of its self?
22. Interest of \$200 for 1 year, six months and 15 days at 6 per cent.
23. \$250 is 20 per cent. of what?
24. \$1800 is 150 per cent. of what?
25. The amount is \$48; the rate is 20 per cent.; find the base.

TO.—HISTORY.—50.

[Perfection in each of the following topics counts 10.]

I. The French in America.

1. Name times and places of two or more early settlements.
2. Name times and places of two or more distinguished explorers.
3. Name four decisive battles with the English.
4. Cession of French America. When and to whom?

II. Period of the Revolution.

1. Who was President during the Revolutionary War?
2. Dates of the beginning and end of the war?
3. Best known naval officer in the American service?
4. Who were the Hessians? Their relation to England?

III. Diplomatic History.

1. How and when did we acquire Louisiana?
2. How and when did we acquire Alaska?
3. Subject of the Geneva arbitration?

IV. Political History.

1. What was Jefferson's Ordinance (1787)?
2. What did the "Dred-Scott Decision" declare?
3. Provisions of the Fifteenth Amendment.

V. Miscellaneous.

1. How is the Electoral Commission made up?
2. Who built the first steamer? Date.
3. What is a protective tariff?
4. Is the American-born child of Chinese parents a voter?

WRITTEN READING.

1. What effect has emphasis on inflections? Illustrate.
2. What are the uses of the circumflex? Illustrate by three examples.

3. Mark the inflections in the following: "I came to bury Cæsar, not to praise him." Give reasons.

4. What is the penultimate pause, and what determines the inflections at this pause? Illustrate.

5. Give two examples in which emphasis changes the accent.

ORAL READING.

The examiners should have each candidate read one or two verses in prose, and a stanza or two of poetry, and mark the grading, considering three things: ease and smoothness, accuracy, and expression.

BOOK NOTICES.

COMSTOCK'S ELOCUTION AND MODEL SPEAKER.
600 pages, 12 mo. By Andrew Comstock & Philip Lawrence. Philadelphia: T. B. Peterson & Bros., publishers. Price \$2.00.

If by elocution is meant the art which cultivates those powers, whose exercise indicates the orator, then this book more nearly answers the purpose than any we have yet seen. It is complete in every respect. Almost one-half the book, or 214 pages, are devoted to the practical teaching of elocution. This part is copiously illustrated by diagrams of Gesture, drill in Vocal Gymnastics, including exercises in Articulation, Pitch, Inflections, Force, Time, etc. The selections for declamation, readings, and dialogues are good, a number of new pieces being added to the old "stand-by's."

GERMAN, WITHOUT GRAMMAR OR DICTIONARY.

By Dr. Zur Brucke. Chicago: S. C. Griggs & Co. San Francisco: A. Roman & Co.

We believe the strongest argument that can be given for teaching French and German in our schools, is the utilitarian one, that in a great commercial land, we should know the language of the countries with whom we carry on an extensive trade. At all events, this is the argument, tax-payers readily comprehend and grant. And we believe no one ever learned to speak a language simply from the study of its grammar. It is by speaking, first words of the simplest construction and expressing the most elementary ideas, then by extending the range of subjects and the manner and matter of speech, that languages are learned. This is the object method of learning language and experience has proven it the only logical one. Upon this method is the little book by Dr. Zur Brucke constructed. It begins with a lesson on "The Hand," and goes on to others simple topics. The lessons are all conversational and need a live teacher to carry them on. In fact, as with the object sys-

tem generally, "sticks," or teachers who *hear* lessons, can do nothing with it. The book is intended for those who can teach, and in their hands will do superior work. Despite the admirable system on which the book is based, one great fault is observable in it. Scarcely a page is free from orthographical and grammatical errors. The book sadly needs revision, before it is put into the hands of either teacher or pupils.

COUNTRY QUARTERS. By the Countess of Blessington. **THE CARDINAL'S DAUGHTER.** By Mrs. Catherine A. Warfield. Both from the press of T. B. Peterson & Bros., Philadelphia are before us.

We believe teachers occasionally indulge in fiction—that is the reading of it. Of their kind, these books are excellent. The former, particularly, which is the initial volume of "Peterson's Dollar Series," has a good reputation on the other side of the Atlantic, where Lady Blessington lived and wrote. Teachers will find the latter volume—**THE CARDINAL'S DAUGHTER**, exciting, full of incidents, and calculated to enliven a dull hour.

ROUGHING IT IN THE BUSH. By Mrs. Susanna Moodie. New York: DeWitt. San Francisco: I. N. Choynski.

This is another book of the class above referred to, though of scarcely equal merit. It gives, however, an animated and quite interesting description of the Canadian forests. We do not ourselves much fancy works of this character, and the best we can say of this, is that it is as good as its class generally are.

DEFINITIONS AND EXPLANATIONS OF THE SCIENCE OF BOOK-KEEPING. By Louis Rohrer. St. Louis, Mo.: W. J. Gilbert. San Francisco: I. N. Choynski.

One great fault in many of the text-books on Book-keeping, now in general use, is their size and the vagueness and complex character of their explanations. A good teacher can do better without than with them. The work before us obviates many of these objections. The explanations are extremely simple in character, and the illustrations and examples are concise and appropriate. Mr. Rohrer is Principal of the Rohrer Commercial College of St. Louis, Mo., hence his book has the advantage which practical experience with learners seldom fails to give.

PHILOSOPHY OF LAW. By Herbert Broom, LL. D. Author of "Legal Maxims," "Commentaries on the Common Law," &c. San Francisco: Sumner Whitney & Co.

This little book is a most valuable addition to legal literature. It is one of the most readable and instructive books on the subject of legal sciences that we have ever read. In it the author expounds the principles of law in a terse and lucid style that deserves the highest praise; while the citation of numerous recent decisions and the author's comments thereon make the principles that underlie the science of law clear to the most dry comprehension. It is a book that may be read with profit by even the most learned and experienced lawyer. For the student of law we know of no book of its size from which so much valuable information may be obtained with so much pleasure to the reader in its acquisition: The non-professional reader and the business man will find in this little volume an invaluable fund of reliable information touching the leading principles of the science with which all are most intimately concerned. We recommend its careful perusal to all classes of readers, confident that none will be disappointed in it, and that he who masters its contents will possess a very fair knowledge of the leading principles of the common law. It is a book that ought to find a place in every counting-house and library.

CURIOSITIES OF LANGUAGE.

When Cleopatra speaks of

"Such gifts as we greet *modern* friends withal," modern is used in the sense of fashionable. De Quincy has shown that in the line

"Full of wise saws and *modern* instances," the meaning is not full of wise sayings and modern illustrations, but full of proverbial maxims of conduct and of trivial arguments, *i. e.* of petty distinctions that do not touch the point at issue. *Girl* once designated a young person of either sex. *Widow* was applied to men as well as women. A *naturalist* was once a person who rejected revealed truth. *Blackguards* were formerly scullions or turn-spites, who, when a change was made from one house to another, accompanied and guarded the pots and pans and other utensils, by which they were smutted. *Bombast* originally meant cotton padding. *Polite* once meant polished. Cudworth speaks of "polite bodies, as looking-glasses." A *tobacconist* was formerly a smoker, not a seller of tobacco. *Corpse* once denoted the body, whether of the living or dead. *Facetious* originally meant urbane. *Imp* once meant graft. Bacon speaks of "those most virtuous and goodly imps, the Duke of Sussex and his brother." A *minion* was once a favorite, and *knaves* meant boy. *Dunce* was originally a contraction for Duns Scotus or Duns-man, an adherent of the same, and signified that the person to whom it was applied shared the doctrines of that learned divine.

BOYS' AND GIRLS' DEPARTMENT.

Edited by Mrs. L. A. K. Clappe.

In taking charge of the Boys' and Girls' Department of the PACIFIC SCHOOL AND HOME JOURNAL it must be obvious to all that it will be impossible for the Editor to make it purely original. The corps of writers on this coast is too small to permit us to offer to our young readers, every month, a table of contents that shall be absolutely new; though we expect to give in each number one or more articles that have not previously appeared in print. We hope, however, that even our selections will be sufficiently fresh to satisfy those youthful Athenians, who cry out as declamation-day appears: "O, please find some new thing for us that no other fellow" [we fear they say 'feller'!] "has ever spoken!"

Sparkling little sketches for select reading,—a branch of elocution too often neglected for the more showy display of recitation and oratory,—will be a specialty of this journal, that,—to say nothing of the beneficial effects upon pupils,—may serve, perhaps, to give variety to the usual Friday afternoon exercises of our schools.

Teachers can greatly assist in carrying out the design of this department of the Monthly, by sending to us any dialogues, songs, recitations, or tableaux that have been particularly effective in their own classes. Original articles from the older pupils, quaint sayings of the baby-brigade, odd definitions for our "New Scholar's Dictionary," historical and geographical enigmas, puzzles, etc., are particularly desired, and will be gratefully received by

the Editor, who earnestly hopes that her very humble effort to instruct and amuse the boys and girls of California will meet with such sympathy and encouragement from the teachers of the State as will insure its triumphant success.

The Two Wishes.

IALOGUE.

(Adapted from a story in the *St. Nicholas*, by SARAH COOLIDGE.)

CHARACTERS:—*Pierot, Pierotte, Mother, Fairy.*
SCENE:—*Discovers the brother and sister ready to go into the forest to gather fagots.*

Pierrot.—O Pierot, how I wish I needn't wake up, but might just lie still all day! Wouldn't it be jolly, though?

Pierot.—And I wish, I do, that you wasn't such a little sleepy-head; for then we could get out before sunrise, and gather every mushroom in the meadow while the Blaizé children are still snoring in their beds.

Pierrot.—Well, I wish I were a bird, and didn't have to gather any nasty old mushrooms at all—

Pierot.—I don't want to be a bird, but I wish I were a grasshopper and could jump three feet at once.

Pierotte. [Bell rings.]—There goes the breakfast bell. Don't I wish I were the Princess and could have coffee and white bread to eat, instead of tiresome porridge.

Pierot.—And I wish I were the young Coun Jules, with no fagots to bind, no cow to fodder, and no sheep to tend!—Ah! what a fine life he leads. Beautiful clothes, and nothing to do. Six meals a day, two of them dinners, a horse to ride—every thing! I wish—

Mother. [Entering.]—And a nice yellow skin, and eyes like boiled gooseberries! Better wish for these while you are about it. Much

you know of noblemen and their ways! Did you ever have an indigestion? Tell me that. When you have tried one, wish for it again if you can.

Pierot.—Well, mother, any way I wish our godfather had left Pierotte and me his money. We should be rich then—

Mother.—Nonsense, child. Do you know my last fagot is on the fire? You must find and tie smartly to-day. Pierotte, help your brother all you can, for your father will not spare him to go again this week, on Saturday we must do a big baking.

[*The children walk off together and suddenly encounter a rose bower.*]

Pierotte.—Oh, isn't it lovely here? It never looked so pretty as it does to-day. Why, where did the arbor come from? Just see that wild rose! How many blossoms it has! Oh! what was that? It waved at me!

Pierot.—What waved, you little simpleton?

Pierotte.—The rose. It waved a white arm at me!

Pierot.—Nonsense, it was the wind. What's the matter now? [*as Piorette starts.*]

Pierotte.—Some one laughed. O, I know they did.

Pierot.—It waa a cricket or a tree-toad, you little goose. There is nobody here to laugh. [*All at once he sees the fairy looking over the rose bush, and beckoning to him. Addresses her in a trembling voice.*] Did you speak to us good madam?

Fairy.—Speak to you, indeed! No, certainly not. I saw you staring at my house as if your eyes would pop out of your heads, and I thought perhaps you wished to speak to me.

Pierot.—No, no; oh! no. It was only—we were only—only surprised, because we didn't know that there was a house here—

Fairy.—There was none last night, and there wont be any to-morrow morning,—at least none for children to stare at.

Pierot.—What do you mean? How can a house be built in one night, and why won't it be here to-morrow?

Fairy.—Because to-morrow won't be Midsummer's Day,—and to-day is; and a fairy house is visible to mortal eyes at that time, and no other.

Pierotte.—Oh, Pierot! Madam, then is a fairy, a real fairy! Pierot, think of it, only think of it, brother dear!

Fairy.—Ha! ha! ha! At your service my

child. Do you like fairies so much? Perhaps you wish to gather some of my roses.

Pierot.—[*Bows politely.*] One rose then, since madam is so good.

Fairy.—[*Giving them a rose.*] Now listen, children, each of my roses encloses a wish. You are great wishers, I know. This time the wish will come true, so take care what you are about. There will be no coming to get me to undo it, for I sha'n't be visible again until this time next year on Midsummer's Day, you know. So goodbye. [*Fairy vanishes.*]

Pierotte.—[*Rubbing her eyes.*] Why, what has become of the fairy house? It was here this minute, and, now there is nothing left but the rose bush. The fairy herself has vanished.

Pierot.—Well, never mind, dear, the precious rose is safe enough. Let's sit down, and think what we shall wish for. We must be careful, and ask for something very nice.

Pierotte.—It would be better to wait and think ever so long first.

Pierot.—That's so. We will. Aren't you awfully hungry, Pierotte?

Pierotte.—Yes, hungry as a little bear. Let's eat our luncheon now. I can't wait any longer.

Pierot.—[*Taking bread out of his pocket, and breaking it into two equal parts, one of which he gives to his sister.*] Well, here's your half. Eat away.

Pierotte.—[*With her mouth full.*] Look! look! a cherry tree, brother,—a real cherry tree here in the woods! with ripe cherries on it too! How good some would be with our bread!

Pierot.—First-rate; if we could reach them.

Pierotte.—Well, any way, let's go and try. Now, if we were only as big as father and mother we could reach the boughs without even getting on tip-toe. [*They quit the scene; Pierot exclaiming at the moment of disappearance:*]

Pierote.—Oh, dear, I wish we were both grown up!

Pierotte.—So do with all my heart! [*Ex-eunt—Re-enter children disguised as an old man and woman.*]

Pierotte.—Why Pierot! How queer you look! What have you been, and gone, and done to yourself! You've got a beard, and your forehead is all criss-cross and wrinkly, and your chin is rougher than anything. Dear me, how ugly you are! I never thought you could be so ugly!

Pierot.—Well, come now! That's cheeky, I would say; you just wait till we get home and I show you the old looking-glass. But stay, we

needn't wait; [*Drags her to a little pool.*] here's one ready made. Look in, Pierotte, and see what a beauty you have become.

Pierotte.—That me! [*Screams and covers her face with her hands.*] Oh! I never, never will think it! What is the matter with us Pierotte? Was it that dreadful fairy, do you think? Did she bewitch us?

Pierot.—That wish! I wished that we were both grown up, don't you remember? Oh, what a fool I was!

Pierotte.—You horrid, horrid boy! You have gone and wished me into an old woman! I'll never, never forgive you!

[*They both sit down with their faces to each other and begin to sob. Presently Pierot speaks.*]

Pierot.—Pierotte, little Pierotte! [*Very softly.*] [Pierotte scowls and sticks out her shoulders.]

Pierot.—[*Getting angry at her obstinate silence.*] Don't look so cross; you can't think how horrid it makes you—a woman of your age, too.

Pierotte.—(*Rising and stamping with rage.*) I'm not a woman of my age. Oh! how can you say such things! I don't want to be grown up. I want to be a little girl again.

Pierot.—You used to be always wishing you were big—

Pierotte.—Ye-s, so I was; but I never meant all at once. I wanted to be big enough to spin—and—(*sobs*) and—the-mother-was-w-as-going to teach me—I wanted to be as big as Laura Blaize, —and—pretty—and—some day—ha-ve—a sweatheart, —as she had—and—but what's the use? I've lost it all, and I'm grown up, and old and ugly already, and the mother won't know me, and the father will say: "My little Pierotte! Gracious! impossible! Get out you old witch!"

Pierot.—I'll tell you what, don't let us go home at all. We will just hide here in the woods for a year, and when Midsummer's Day comes round again, we'll hunt till we find the fairy, and beg her on our knees for another wish, and if she says "yes", we'll wish at once to be little, just as we were this morning, and then we'll go home directly.

Pierotte.—Poor mother! she'll think we are dead!

Pierot.—That's no worse than if she saw us like this! I'd be conscripted most likely and sent off to fight, and me only twelve years old! And you'd have a horrid time of it with those Blaize boys. Robert Blaize said you were the prettiest girl in the village. Oh, my! I wonder what he'd say now!

Pierotte.—Oh yes, let us stay here by all means. I couldn't bear to see the Blaize boys, and me looking like an old hag. But then—it will be dark soon—sha'n't you be frightened to stay in the woods all night?

Pierot.—(*With teeth chattering, and limbs trembling.*) Pooh! A man like me isn't easily frightened!

Pierotte.—It's so queer to hear you call yourself a man!

Pierot.—It's just as queer to hear you call yourself a little girl!

Pierotte.—Dear! dear! how my legs shake and how stiff my knees are! Do grown up people always feel like that?

Pierot.—I don't know. Would you like some cherries, now, Pierotte?

Pierotte.—Cherries! Those sour things? No, thank you. They would be sure to disagree with me. But, I say, Pierot, where shall we sleep?

Pierot.—Under the trees as long as the summer lasts.

Pierotte.—Goodness me! We shall both die of rheumatism.

Pierot.—How funny it seems to hear a child like you talk of rheumatism.

Pierotte.—I wish I were a child again. But there's a tree with grass below it. Let us go and sleep. (*Exeunt.*)

[*Children re-enter. Fairy rises from behind the rose bushes.*]

Pierotte.—(*Slapping her hands.*) Oh Pierot! look! look! There is the fairy again! the year is up.

Fairy.—Well, my old gaffer, what can I do for you, or you, good dame?

Pierotte.—Oh, please, I am not a dame, and he is not a gaffer. I am little Pierotte, and this is Pierot, my brother.

Fairy.—Pierot and Pierotte! Wonderful! But, my dear children, what has caused this change in your appearance? You have aged remarkably since I saw you last.

Pierot.—Indeed, indeed we have!

Fairy.—Well, age is a very respectable thing. Some persons are always wishing to be old. You find it much pleasanter than being young, I dare say—

Pierotte.—Indeed, we do not.

Fairy.—No? Well, that is sad. But I have heard persons say the same before.

Pierot.—Oh, please, please, please, dear, kind fairy, forgive us! We don't like to be

grown up at all. We want to be little and young again. Please, dear fairy, turn us into children as we were before.

Fairy.—Very well. Here's another wish for you. See that it is a wise one this time, for if you fail it will be of no use to come to me. [Giving rose, she vanishes. Children rush off the scene exclaiming:]

Pierot.—Hurrah! I wish I were a little boy again!

Pierotte.—And I wish I were a little girl, the same little girl exactly that I used to be.

(Children re-enter as at first.)

Pierot.—Clapping his hands, and dancing round his sister. Oh, how young you look! Oh, how pretty you are! Oh, what happiness is it not to be old any longer!

Pierotte.—And not to have any more ugly rheumatism! Oh, the good fairy! Oh, the kind fairy! But, Pierot, let us go right home to the mother; we'll carry her a big fagot, for who has gathered wood for her all this time?

Pierot.—Well, we'll bring it for her now, any way. And, I say, Pierotte, we'll never wish to be grown up again, will we?

Blue and Gray.

"O mother what do they mean by blue?
And what do they mean by gray?"
Was heard from the lips of a little child,
As she bounded in from play.
The mother's eyes filled up with tears;
She turned to her darling fair,
And smoothed away from the sunny brow,
Its treasures of golden hair.

"Why mother's eyes are blue, my sweet,
And grandpa's hair is gray,
And the love we bear our darling child,
Grows stronger every day.
But what did they mean?" persisted the child
"For I saw two cripples to-day,
And one of them said he fought for the blue;
The other, he fought for the gray.

"Now, he of the blue had lost a leg,
The other had but one arm,
And both seemed worn, and weary and sad,
Yet their greeting was kind and warm.
They told of battles in days gone by;
Till it made my young blood thrill;
The leg was lost in the Wilderness fight,
And the arm on Malvern Hill.

"They sat on the stone by the farm-yard gate,
And talked for an hour or more,
Till their eyes grew bright, and the hearts seemed
warm,
With fighting their battles o'er.
And parting at last with a friendly grasp,
In a kindly, brotherly way,
Each called on God to speed the time,
Uniting the blue and the gray."

Then the mother thought of other days,
Two stalwart boys from her riven,
How they knelt at her side, and, lisping prayed
"Our Father which art in Heaven;"
How one wore the gray, and one wore the blue,
How they'd passed away from sight,
And had gone to a land where gray and blue
Are merged in the colors of light.

And she answered her darling with golden hair,
While her heart was sadly wrung
With the thoughts awakened in that sad hour
By her innocent prattling tongue;
"The blue and the gray are colors of God,
They are seen in the sky at even,
And many a noble, gallant soul
Has found them passports to heaven."

A Plea for Reconciliation.

(Extract from an Oration by LEONIDAS R. PRATT.)

The war is ended and the Angel of Peace, white-robed and smiling, is again in the heavens. If ever a brave and generous people were fearfully punished, they, who made so noble a struggle in the Lost Cause are that people. What shall be said of them to-day? Taunts and reproaches still? Tell us, O Thomas, in Tennessee, standing like a living wall between them and the nation's capital? Tell us, Farragut, up among the shrouds of your old flag-ship in Mobile Bay? Tell us, Hooker, from your part above the clouds on Lookout Mountain, fighting the battles of liberty in the very presence of the gods? Tell us, Grant, hewing thy bloody pathway through the Wilderness? Tell us Sherman, sweeping across the Continent from Atlanta to the sea, bearing the standard of liberty where it was never known before? Tell us, O, Sheridan, on that black steed, swifter than the eagle's flight, and fiercer than the god of war, sweeping down from Winchester on that terrible day, to wrest a victory from the very jaws of destruction and defeat? Tell us, O ye men who fought the battles for us, and tasted all the bitterness of the strife, how do you regard the enemy you encountered? Nay, climb the skies, and summon the

cannonized Lincoln from his rest! Bow at your Baker's unmarked grave! Call back your million dead, whose dust is mingling with the soil of every State from Galveston to Richmond, and search their hearts. You will find no hatred there! They fought the battles from principle; not from animosity. The contest ended; they wipe the crimson from their blades, and again tender the fraternal clasp.

I speak for one only. I do not intend to consume my heart, or to compromise either my manhood or my humanity, by longer cherishing a feeling of unkindness or distrust. Let the Lost Cause and the animosities which it engendered sleep together in one common grave. In the spirit of an aspiration human as it is Divine, and Divine because it is human,—over the furrows which war has plowed, let us stretch out to them the hand of love and reconciliation, and summon them by the memories of a distant past, and in the name of a common heritage and fame, to come forward now and aid us in undoing the evils, the disorders, and the corruptions which the war has entailed upon us. We need them and they need us. There is no dependence that is not mutual; and never until we forget that American blood flows in their veins should we wan-tonly exult in their calamity.

The Wanderer.

BY G. N. T.

[The following original poem by little Georgie T—, who is but fourteen years old, will be read with interest by our boys and girls, many of whom will, we trust, emulate the example, and send us the results as quickly as possible:]

A weary traveler with staff in hand,
Was returning home to his native land.
His hair was dusky, his face burnt brown;
Who greeted him just at his little town?

He passed up the well-known pathway straight,
And his old friend stood at the turnpike gate;
But his heart grew cold with a spasm of pain,
For his comrade did not know him again.

So he sped with a nod and a smile,
And a little sigh to himself the while;
'Till out of her window his sweet-heart peeped,
And up in his bosom his full soul leaped—

And his old love saw but a stranger there,
And passed him by with a haughty stare.

His sunburnt cheek with a tear was wet,
As he wandered on still further yet—

And, lo! his mother came tottering down
The steps that led from the church to the town.
"God save you!" he said, but she cried with joy,
As she fell on his neck, "My boy! my boy!"

A man may forget the playmate of old;
The lady-love's eye look strange and cold;
The wind and the sun may do what they will,
A mother's eye shall defy them still!

The Angel and the Mortal.

A DIALOGUE.

ANGEL.

Why shrink you from the way,
To the spirit's distant shore?
Earth's mightiest men in armed array,
Have hither, gone before.
The warrior chiefs, whose banners
Flew far as eagles fly;
They have left the song, and the voice of praise
And the feasts of victory.
And the seers who sat of yore
By Orient palm and wave,
They too, have passed with their starry lore;
Can you still fear the grave?

MORTAL.

I fear, I fear; the sunshine
Is joyous to behold;
And I reck not of the buried kings,
And the awful seers of old.

ANGEL.

You fear? The bards whose lays
Have made your deep heart burn,
They have left the song and the voice of praise,
For the land whence none return.
And the lovely, whose memorial
Is the verse that cannot die,
They too, have fled with their radiant bloom,
From the gaze of mortal eye.
Would you not join the throng,
Of the earth's departed flowers?
The minstrels of the mighty song,
In their far and fadeless bowers?

MORTAL.

Those songs are high and holy,
But they answer not my fear;
Not from my path those flowers have fled,
I fain would linger here!

ANGEL.

Linger then yet awhile,
Like the last leaf on the bough;
You have loved the gleam of many a smile,
That is taken from you now.
There were sweet singing voices,
In your path that now are still,
There are seats left void in your earthly home,
Which none again may fill.
Soft eyes are seen no more,
That made sunshine in your heart;
Kindred and friends have gone before,
Can you still fear to part?

MORTAL.

I fear not now, I fear not,
Though my way through darkness bends,
My soul is strong to follow them,
My own familiar friends!

Baby Wisdom, in School and Out.

Little Charlie burst into his mother's room the other day, with the indignant question, "Mamma, isn't God an Indian Giver?" "Hush, Charlie, you wicked boy!" answers shocked mamma. "Well, I know he *is*, for he gave Mrs. Clark a dear little boy-baby, and then took it away again just for nothing!" replies Charlie, the irrepressible.

"How he suckered 'em in!" was his biblical comment on the story of Solomon's judgment

His greatest ambition is to grow old as fast as possible; and, one evening after comparing notes on birthdays with a baby-intimate, he whispered confidentially to his aunt, "Aunt May, shouldn't you think Eddie Martin would be ashamed of himself, to be as big as he is and no older?"

He confided a ten-cent piece to his mother, and asked her to buy him some candy, but showed that he had a keen eye to business by shouting out after her, "Don't forget to bring back the money, Mamma!"

On being shown a tiny key, he said, "Aunt May, how big will this dear little key be when it is grown up?"

His little sister Gustava, who has a wild passion for curls—her own blonde tresses are straight—electrified her mother, the other morning with the question, "Mamma, how does God wear His hair?"

It was she who on being told that God is everywhere, said, "Then why don't I step on Him?" at the same time bringing her rosy little foot gingerly to the floor.

The first time that she saw the new moon, she exclaimed, "O, Mamma, God had musk-melon for dinner to-day"—"Why, Gustava, what makes you say that, dear?"—"Cos he's frowned the piece that was left, outside," was the convincing answer.

This dear Gustava is the bravest darling, and goes all over the house at night alone. On being asked why she preferred finding her way without a light, her reply was, "O, cos in the dark, that which catches folks can't see me."

Charlie is brave for precisely the opposite reason, and when his mother offered to cross the street with him, sung out, "I ain't a bit afraid, Mamma, for see! God has hung out His big lamp!" pointing at the same time to the full moon.

His mother thinks that her Charlie is dropping into second childhood before he has finished his first, for he is developing a frightful propensity for punning—"How was Mr. Blank, to-day, Charlie?" says mamma. "Well, benigner 'an ever. He is so benign that he's almost be-ten!" returns the misguided infant.

His big brother, Ben is nearly as bad; for, on hearing "a sweet girl-graduate's" recitation of Maud Muller, he suggested amending the verse "Alas! for maiden, alas! for Judge," into "A lad for maiden, a lass for Judge."

Our Garden in Spain.

Will some of our young friends tell us what will come up if we plant the following:

- | | |
|-------------------------------|--------------------------------|
| 1. A sunbeam. | 6. Little Laura. |
| 2. Napoleon Bonaparte. | 7. Eye of a celebrated satyr. |
| 3. The skin of a fox. | 8. A Roman Empress. |
| 4. Some leather and prunella. | 9. Maiden lady of certain age. |
| 5. A wounded cupid. | 10. Conceited young man. |

Too Late for Publication.

THE report of the Yuba County Teachers' Institute came to hand too late for publication this month. It will appear, together with the report of the Santa Cruz County Institute and some others, in our next issue.

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THE PACIFIC SCHOOL AND HOME JOURNAL.

VOL. I.

SAN FRANCISCO, JUNE, 1877.

NO. 4.

THE TEACHER'S REVERIE.

AN INSTITUTE POEM.

BY CHARLES H. SHINN.

Here, friends, we meet to count our Summer's gain,
The days of light, or dark, of rest, or toil;
We bring our gathered sheaves of ripened grain
That we may scatter, in the wasting soil,
Broad acres of fresh seed, whose hidden power,
May rise with Spring, and freshen every hour.

We sow year-promise here. Let statesmen rule
Their citied realms, and guide the ship of State;
Beneath the archway of our common school
The passing hours are strong with touch of fate,
My brother teacher, guide with careful hand,
For you make rulers of the sea and land.

Pause here, to question—shall the men to come
Be worshippers, but with a purer grace,
And stronger than ourselves? The years are dumb,
And no clear answer falls from any place;
We train the children, but we hardly know
With what result, for long doubts murmur so.

Yet we hear voices, and new fervors creep
Through all the soul, from some unknown profound;
A guerdon, and a promise from the deep,
Whereof all Future is; it is the sound
Of armies in the distance, strong and calm,
Making the darkness melt with their heroic psalm!

It is the voice of men; we toilers here,
Who shape the coming age as plastic clay,
Know that a mystic light is creeping near;
The sweet world, furrowed by the flame of day,
Throbs into rosy gold, the night wears fast,
And better men shall toil when we are past!

Yea! these, the generations yet to be,
Shall drop their plummet down the wrinkled walls
Of dim abysses—sail the northern sea,
Carve new, and read the old in buried halls;
Or whisper thro' the lucid heath of stars
In bright converse with Jupiter and Mars.

And we? Upon our labors there will slip
Full soon a shadow; this work that we do
Reaches forever, but the workers' grip
Will fail, and lose itself; the hours are few
Wherein to smite out Empire, or to reach
The pale white lily of a perfect speech.

Therefore, dear brothers, life is none avail
If by this world no faithful prayer be said,
Or any murmur from sweet lips and pale
Be softly quivered to the lonely head,
Or any child with gathered roses come
To thus caress the lips forever dumb.

I stand all day within my wonted place,
Of growing souls a careful worshiper,
Some little maiden, with her dainty grace,
Is sorely troubled; and I comfort her;
Behold! I shape the future, in the name
Of that dear Christ to whom the children came.

And that for all our troubles is the cure,
(I think there is none other) this—that we,
If all our work is true, serene and pure,
Or even just its best, at last may be
Set face to face with Beauty we have made,
And not been proud of making; thereto creep
Vast shadows from the veil about the earth,
And voices breaking up the stony Deep,
Till we are quiet, and new hopes have birth,
As we let go the world, and out of space
A glory breaks, and touches on our face!

HOW TO LEARN FOREIGN LANGUAGES.

BY JOHN S. HITTELL.

The prevalent ignorance in regard to the proper method of studying foreign languages, is a serious evil, causing many thousands of persons to waste months on what should be learned in days; and I imagine I can give some advice that will be of value on this point. When any work is to be done, the most important requisite of success is a clear conception in the worker's mind of the best mode of procedure. The bricklayer when supplied with good bricks, quicklime, sand, water, and the tools of his trade, can erect, in a solid and durable manner, the walls of a small house within a few weeks; but a savage would not accomplish the task in years, and might suppose that he lacked the natural capacity to comprehend the abstruse art of bricklaying. He must not only know how to mix the mortar, but after he has it ready, he must use bricks and mortar in alternate layers, and he must do his work in a regular manner from the ground upwards, not trying to finish the top before he commences at the bottom. Most American students of French and German are like the savage; they do not understand the use of their tools, and they want to commence their work at the top instead of at the bottom. They do not know the purpose of grammar; they want to talk before they read, and to learn the inflection after they shall have become familiar with the meanings of the words. They begin with matters that are of no value to a beginner; they find that they make no progress; they become discouraged; they imagine that they have no talent for learning languages; and they give up in despair. Not more than one person in a hundred of those who undertake to study modern languages in the United States, learns either

to read or to converse freely; and the failure in most cases, is caused by the consciousness on the part of the students that their progress has not been proportionate to their efforts, and a belief that they have no prospect of doing better by continuing their study. The acquisition of a modern European language with a rich literature, intimately connected with the enlightenment and the news of our own time, instead of being difficult, as many persons suppose, is both pleasant and easy, and if the students all understood what I shall here try to explain, I think that not one would fail where ten do now. I claim no originality for the ideas here expressed, but I am not aware that anybody has written them out before me.

The main trouble with students generally is that they do not know the use of grammar. The books tell us erroneously that that science teaches us to speak and write correctly; but if that be so, why do we want a dictionary? Both the grammar and the dictionary are indispensable; they are the tools with which we work; and we must understand their uses before we can work rapidly. The bricklayer must not mix his mortar with his trowel, nor lay his bricks with his hoe. Each tool has its separate purpose. The science of grammar does not teach us to write and speak correctly; it does not enable us to spell, to pronounce, or to define words; it teaches nothing but inflection and syntax. The general principles of syntax are the same in the languages of Continental Europe as in English, with which the student is supposed to be familiar before attacking a foreign tongue. Practically then, the use of grammar for students of foreign languages, is to teach inflection.

But here the average reader will ask, "What is inflection, thus put forward as the main part of grammar? It is not mentioned in the common text-books, which say that grammar has four parts—orthogra-

phy, etymology, syntax and prosody." My answer is that the division of grammar into those four parts, is traditional and antiquated, and its maintenance in our books, is a disgrace to our educational system. Prosody and orthography are not parts of grammar, and the definition of etymology is obsolete. Etymology is a branch of lexicology and philology, and teaches the relationship between root-words or radicals, whether in the same language or not. For instance, it teaches that fluid, pluvial, and implore (to beg with tears) have a common origin. The etymology of a word may take us through a dozen parts of speech and through a dozen languages. A considerable part of the value of Webster's Unabridged Dictionary consists in its excellent etymologies. Inflection is that branch of grammar which teaches how a derivative is formed from a radical within the same language, and within the same part of speech. It tells us that the derivative "lovers," is the plural of the root-noun, or radical, "lover" and that the derivative, "loves," is the third person, singular, in the present tense, indicative mood of the root-verb "to love."

The reader may remark that the derivation "lovers" from "lover," and of "loves" from "to love" appears to be a matter so simple and easily learned that it can not have any importance. Simple as it is, it is fundamental and indispensable, and the student who does not begin with it, is like the builder who does not commence his house at the foundation. Here are three sentences, each having a different meaning, which can not be understood without the help of inflection:

Behold the lovers leap.

Behold the lover's leap.

Behold the lovers' leap.

The words "lovers," "lover's," "lovers'," have each a different meaning, and are all authorized by the best English usage and yet not one of them can be found in

Webster's Unabridged Dictionary, and not one of them is properly entitled to a place in any dictionary. How, then, can a foreigner learn the meaning of these sentences? By the help of inflection, which teaches him that "lovers" is the nominative, plural, "lover's" the possessive singular, and "lovers'" the possessive plural of "lover." It tells him that "lover" is the radical which alone has a proper place in the dictionary; that that is the word to look for; and it teaches him the precise relative meaning of all its derivatives. So in reference to all other words. Inflection enables the student to use the dictionary; it is the foundation of the study of language in books.

The English in its grammatical construction, is the simplest of all European tongues. Inflection occupies a far more important place in French and German. The chief subjects of inflectional changes in all inflected languages are the verbs, and we make only five change in the regular verb: "Loved," "loves," "lovest," "lovedst" and "loving" are the only derivatives from the root-verb to "love." Most of the tenses are formed by the help of auxiliaries, and in all the persons save the second person singular, which is almost obsolete, the pronoun is necessary to indicate the person. We say "I will love," "he will love," "we will love," "you will love" and "they will love;" the only difference of person and number being in the pronoun. The French say *j'aimerai*, *tu aimeras*, *il aimera*, *nous aimerons*, *vous aimererez*, *ils aimeront*, the form of the verb being different in every person. While we have only five, or leaving off the second person singular, only three changes in English, the French have thirty-five. The proportion of derivatives in ordinary sentences, is therefore considerably larger in French than in English.

The preposition, conjunction, interjection, and adverb, are not inflected. The

verb, pronoun, adjective, and article are; but the inflections of all save the verb, are few and simple, yet a knowledge of the manner in which they form their plurals, feminines, and cases is indispensable. The main work in the grammar, is the study of the conjugation of the verbs, especially the auxiliary, regular, and the most common irregular verbs. After having spent from twenty to fifty hours on the inflections, the student should be so far advanced that he can use the dictionary with satisfaction. Then he should get some entertaining book, written in a plain style on some familiar subject, and commence reading. If he meets many words that he cannot find in a good dictionary, he must go back to the study of the inflections for a few days; when he can find every word, he will know that he has sufficient acquaintance with the grammar. The dictionary can not be used properly without a study of the inflections. The derivatives are not given and even if they were, it would not be scholarlike to look for them, and it would require a vast amount of unnecessary labor. Every French radical verb having thirty-five derivatives, it would require thirty-five times as much work to hunt out the derivatives, one by one, and each would have to be hunted out thirty-five times as often on an average, because they would be forgotten more readily in proportion as their number is greater. The fewer the words we have to learn, the less difficulty we have in remembering them. The reduction of the words to be learned to the smallest possible number, and their classification in categories which can be impressed on the mind are matters of great importance to the student.

To show the relative proportion of radicals and derivatives, I mark all of the latter class with italics in the following extract from the beginning of the *Grammaire des Grammaires*, "The Grammar of Grammars," by Girault Duvivier, one of the authorities upon the French language;

La Grammaire est un art, qui enseigne a parler et a ecrire correctement. Cet art compose de differentes parties, a pour objet la parole, qui sert a enoncer la pensee. La parole est ou prononcee ou ecrrite. Ces deux points de vue peuvent etre consideres comme les deux points de reunion auxquels on rapporte toutes les observations grammaticales; ainsi toute la grammaire se divise en deux parties generales; la premiere qui traite de la parole, et la seconde qui traite de l'ecriture. La grammaire admet deux sortes de principes; les uns sont d'une verite immuable et d'un usage universel; ils tiennent a la nature de la pensee meme; ils en suivent l'analyse; ils n'en sont que le resultat. Les autres n'ont qu'une verite hypothetique, et dependante de conventions libres et variables et ne sont d'usage que chez les peuples qui les ont adoptes librement, sans perdre le droit de les changer ou de les abandonner, quand il plaira a l'usage de les modifier ou de les prescrire. Les premiers constituent la grammaire generale; les autres sont les objets des diverses grammairies particulières.

This may be thus translated:

"Grammar is an art which teaches us to read and write correctly. This art composed of different parts, has the word which serves to express thought, for its object. The word is either written or spoken. These two points of view may be considered as the two points of union to which we attach all grammatical observations. Thus grammar is divided into two general parts; the first which treats of speech and the second of writing. Grammar admits two sorts of principles; some are of immutable truth and of universal usage; they belong to the nature of thought itself; they follow its analysis, and are its result. The other have a hypothetical truth, dependent on free and variable conventionalities and are used only among those nations which have freely adopted them, without losing the right to change or abandon them when usage may be pleased to modify or prescribe them. The first constitute general grammar; the second are the object of the various particular grammars."

In that French paragraph, there are one hundred and ninety-one words, of which ninety—equivalent to forty-seven in one hundred—are derivatives, and these besides making up nearly half of an average sentence, govern its meaning by the tense, number, and person of its verbs, and

by the numbers and persons of its nouns and pronouns. The easiest method of learning the precise signification of these numerous derivatives, requires a direct study of the inflections.

Let us now look at the passage quoted, to see what words in it can be recognized at first sight as similar in spelling, to English words of the same meaning, and what other ones have a like relationship which will not be understood until after it has been explained. Those of the first class are in italics, and those of the second in small capitals, and from both classes I exclude what may be called particles—that is pronouns, auxiliary verbs, articles, conjunctions, and short adverbs:

La grammaire est un art qui ENSEIGNE à parler et à ECRIRE CORRECTEMENT. Cet art compose de différentes parties, a pour objet la parole qui SERT à ENONCER la PENSEE. La parole est ou prononcée ou ECRITE. Ces deux points de vue PEUVENT être considérés comme les deux points de réunion auxquels on RAPPORTÉ toutes les observations grammaticales; ainsi TOUTE la grammaire se divise en deux parties générales; la premier qui traite de la parole et la seconde qui traite de L'ÉCRITURE. La grammaire admet deux sortes de principes; les uns sont d'une vérité IMMUBLE et d'un usage universel; ils TIENNENT à la nature de la PENSEE même; ils en SUIVENT l'analyse; ils n'en sont que le RESULTAT. Les AUTRES n'ont qu'une vérité hypothétique et dépendante de conventions LIBRES et variables et ne sont d'usage que chez les peuples qui les ont adoptés LIBREMENT, sans PERDRE le DROIT de les changer ou de les abandonner, quand il PLAIRA à l'usage de les modifier ou de les PROSCRIRE. Les premiers constituent la grammaire générale; les AUTRES sont les objets des diverses grammaires particulières.

Those of the first class in italics, number fifty-nine; those of the second class, in small capitals,—including *toute*, “all,” and *autre*, “others,”—as adjectives, for they have something of the adjective nature,—number twenty-six, making together eighty-five—equivalent to forty-four in one hundred. All the substantials,—as for the purpose of this argument I entitle nouns,

adjectives, ordinary verbs, and long adverbs—in that quotation are so nearly akin to English words that the relationship can be recognized and remembered after a brief explanation. Now as in average French sentences, at least nine out of ten of the substantials can soon be understood by the English student, and as these tell the subject, the object, and the action, it is plain that a large part of his work is done for him by the similarity of the two languages.

All the words not substantials are particles and of these in the paragraph quoted there are one hundred and six—equivalent to fifty-six in one hundred. But the particles, though they make up more than half of every average sentence, are the same words recurring over and over again. Thus the hundred and six really contain only twenty-eight words, counting each radical and its derivatives only once. *De* occurs fifteen, *la* fourteen and *les* thirteen times, and so on. Each of the twenty-eight particles occurs on an average in fifty-four words. On a page of French, for each one hundred words there are four auxiliary verbs and three short adverbs. The particles that appear in that paragraph, are a majority of all in frequent use, and when the student has learned fifty of them, he will be able to understand all the particles in nineteen out of twenty French sentences.

My purpose in these remarks about substantials and particles is to show that the French language is made up of two classes of words. The meaning of one class is learned very readily; the other class though constantly recurring, is so small in number that a brief time is sufficient to learn it.

It follows from this that it is an easy matter to master the meanings of the French radicals in common use. At least four out of five substantials are English words in French dress—if such an expression may be permitted when we admit

that English is derived from French and not French from English. The particles are few and most of them also are nearly related to English.

There are two main things to be done in learning to read French—one to master the meaning of the radicals, and the other to learn the inflections. Neither of these two is difficult, if undertaken in the right way. But the latter may be very difficult in the wrong way. And it is because they undertake the work in the wrong way that many persons fail, and they imagine it is because they have no talent for learning languages. In their ignorance, they suppose that this capacity, like a delicate perception for harmony, or a genius for oratory or poetry, is a rare possession and does not belong to them. Many teachers commend, and many students adopt the Ollendorff system of grammar, under which no one can acquire the rules of inflection, or the knowledge of a language. The advocates of this system say that it puts the student to speaking in the beginning, and enables him to learn a tongue by familiar conversation without any tiresome memorizing. The real merits of the system are that it entertains the student with an empty show of learning at first, that it enables teachers who know little of a tongue to avoid an exposure of their ignorance, and assists them to manage large classes without trouble from the unequal progress of the pupils. Under the Ollendorff system, classes can be kept together beautifully; the scholars advance at the same pace through the book; and they may be kept on at this routine for year after year, paying tuition all the time. If they were taught the inflections first, the hard students would run far ahead of the dullards, and would soon get beyond the need of a master.

The grammars on the Ollendorff system are numerous. They usually contain about one hundred exercises, each intended for a separate lesson, and made up of thirty or

more English sentences which the student is to write or speak in the foreign language—let us say French. The first lesson is made up of phrases like these: "Have you any bread?" "Yes, I have some bread." "Have you any butter?" "Yes, I have some butter." "Have you the umbrella?" "No, I have not the umbrella." The second lesson adds a few adjectives and the sentences now take this form: "Have you the good bread?" "Have you the strong butter?" "Have you the blue umbrella?" The third lesson adds a noun and preposition—"Have you the good bread of the baker?" "Have you the strong butter of the dairyman?" "Have you the blue umbrella of my father?" Thus the sentence goes on, adding a new word or two every day, until the student gets to the wonderful position when he can ask, using words which he has learned by the stupidest kind of memorizing—"Have you the good white bread of my uncle's baker?" "Have you the strong yellow butter of my grandfather's dairyman?" "Have you the blue cotton umbrella of my father's brother-in-law?" A little vocabulary precedes each exercise, and by the time the student has gone through the one hundred exercises, he has used about seven hundred words, many of them derivatives, but has not mastered the inflection of a single verb, nor has he learned anything save a number of phrases most of which are of no value, either for use or for teaching him the principles of the language. He has not only wasted his time, but in many cases he abandons his task, declaring that he has no talent for learning languages; and he is right in one sense, for he never would learn, as in my opinion, nobody ever did learn a language in that manner. But with a proper mode of instruction, there is no need of any special talent for learning languages. Every person possessing average capacity and a common school education, can learn to read

any European tongue from books, if he studies in the proper manner. Students sometimes say, "I do not want to learn to read French; I do not care for French literature; I shall never be a professional scholar; I wish to spend only so much time in studying the language as to enable me to converse and bargain with French people." Such expressions are used only by those who misunderstand the work before them. If they learn with the help of books, they must know enough to read before they can speak. All the knowledge of a tongue acquired in reading, is of service in speaking. The easiest way to learn to speak a foreign tongue, is to learn to read it first.

The practice of beginning to learn a language by making up sentences, either orally or in writing, can not be justified before linguists, unless it can be shown that it is easier to learn to speak or write a language than to read it, and that all the knowledge required to write, is necessary for reading. But no such showing is possible. It is short and easy work to learn to read French understandingly; but difficult work to speak it readily, and very difficult to use it correctly. To compel the student to write French before reading it is almost equivalent to telling a man that he must not use an English word unless he can spell it and give its definition in precise and comprehensive terms. All compositions of spoken or written sentences, required of the student before he has learned to read fluently, are conspiracies to discourage him, to retard his progress, to defeat his ambition, and to cheat him out of the fair reward of his intellectual labor. The Ollendorff system is too much like teaching a child to read with signs for words instead of letters. It gives the pupil a small lot of phrases, for which he will not have use once in a year, whereas the study of the inflections and dictionary, gives him all the words needed for every possible

combination of words and for the expression of every idea.

In saying that it is an easy matter for an Englishman or an American of ordinary intelligence to learn to read a foreign language—I refer specially to the modern languages of the Latin and Teutonic nationalities—I speak from my own experience, as well as from familiarity with the opinions of distinguished linguists. No rare talent or very arduous effort is necessary with proper method, but to adopt a bad method in such study, is almost as bad as to sail for a certain seaport and keep the bow of the ship in the wrong direction.

I am positive, because I have had proof in my own studies. By this method, I have learned to read French, German, Spanish, Italian, and Portuguese, and to speak the first three fluently. In six weeks after I began Italian, I had read through the *Promessi Sposi*, a large novel. I have never looked into a Swedish Grammar, but I have no doubt that I could finish any one of Frederika Bremer's novels within two months. I attribute all to method, nothing to any special talent. If forced to follow any other method, I would despair.

French, Italian, and Spanish should be read with enough ease to give pleasure, after one hundred hours of study, and German after twice as much. I, who have great trouble in memorizing anything and cannot repeat correctly a dozen lines of any composition whatever, even from those books which I delight to read frequently, have done still better, and I do not believe that even such a marvelous memory as that of Macauley, could do it in thrice or tenfold the time, without the study of the inflections. After the student has mastered the inflections, and has fixed in his memory about one thousand of the radicals in most common use, he can make out the meaning of any ordinary paragraph. These one thousand words, I classify thus, viz.: Verbs, two hundred;

scientific (including anatomical, zoological, chemical, mineral, meteorological and astronomical terms) two hundred; industrial (including parts of a house, clothing, furniture and manufactures) three hundred; professional (including law, medicine, theology, morals and education) one hundred; and miscellaneous (including adjectives, adverbs, prepositions, etc) two hundred.

Of the one thousand words, four hundred can be recognized by the English student, at the first glance; four hundred more are very similar in spelling to English words of similar meaning, and the other two hundred are soon impressed on the memory in reading. These facts serve to show how simple a matter it is to read after the inflections are once well learned. The student will, of course, find that a list of one thousand words, will not enable him to understand everything, but after he has them, he will not need to look for more than one word in twenty, and the proportion will decrease as he continues to read, but no matter how much he knows of the words, he can understand nothing clearly without studying the inflections. To catch the precise meaning of a sentence, he must know the person, number, and tense of every verb, and the number of every noun, pronoun and adjective.

The student having learned to read, should then give some of his attention to talking. He has acquired from books a good knowledge of the words most commonly used, but at first, he does not recognize them as spoken, and when he wants to express his ideas, they do not arise to his memory, though he recollects them perfectly when he sees them in the book. Practice removes this obstacle, and he makes very rapid progress. The words which he could not use yesterday, run glibly from his tongue to-day, and he astonishes the uneducated foreigner by the correctness and readiness with which he constructs his sentences, with words unknown to him a

few minutes before. His familiarity with the inflections is of vast assistance in talking as well as in reading.

The common idea that the student will necessarily catch a bad accent, if he does not get a teacher with a good accent, at the beginning, is wrong. Neither good nor bad accent fastens itself upon the tongue until after long practice; but there are many persons whose ear is so defective that they can never catch a good accent in a foreign tongue, though from the first they associate only with those who speak without a fault, and live among them for years. The student who understands the inflectional system of study, can safely learn to read without knowing anything of the pronunciation; but it is well to have a teacher who can answer the troublesome questions that arise in the mind of every beginner, and to read over aloud with him those passages which he has learned to translate. All written exercises are to be avoided as a waste of time on mere mechanical work; and all translations into the foreign tongue are specially objectionable. They fix the attention upon points that are of no value to the beginner, and the skill gained is soon forgotten because it will not be used in a long time. Of course when he gets to talking, he needs to become familiar with the phrases, used in ordinary conversation, but he can learn these best from a list of such phrases or from the dialogue in a romance or a drama, which may be read with the teacher. Educated foreigners living in the United States, generally have a good accent in their native tongues, and by speaking and reading with several, the student will learn to perceive differences between them, and will train his ear better to the proper sound of the language than by listening to one alone.

The London School Board have established evening 'normal' classes to supply trained teachers for the National Schools of that city and England.

MY SCHOOL DAYS.

BY ELISHA BROOKS.

You know how puff-balls vanish in smoke when roughly handled; so did this mining town disappear in a season, and the heaps of boulders showed not a trace of the cabin of the miner. The soil went down the stream, the gold went up the flume, and the miner stole away; our cows went out to grass, the trail grew up to weeds,—the trail where lately we had dreamed so of happiness and awakened to feel the storm—and “three o’clock” stole silently by like a murderer, while dream-like lullabys whispered, “sleep on, my children.” Our father had a kind heart, though misfortune had “followed fast and followed faster,” and he said, “boys, you have earned your freedom, and your time is your own now.” Freedom,—what a world of mysterious grandeur did that word convey to our minds. Seventeen years old and free;—we told it to the wild deer, and to our companions, the coyotes; we whispered it to the wild flowers, and to the pines that had kept the wind away in many winters; we shouted it to the cataract that had bathed us so kindly in many summers: they had all heard our complainings, and why not hear us exult? The spirit of our cry was, “Give us of your bark, O, birch tree,” or in the more familiar language of the Indian, “*tope nika chemuck*.” They heard the cry and gave; the game we sold for books; we made the flowers talk love for others; the timber cooked our pork and beans; the water ran through the “Long Tom,” and left the gold in the riffle, then meandered through our garden plot and made the corn and pumpkins grow. I love to make a yearly pilgrimage to nature’s heart, and talk with my old friends;—were they not more kind than man?

A public school was opened this year in a town in the Valley, and we took a cabin

there, my brother and I, and began to “cultivate our minds.” Ah, how sadly grown to weeds they were. It was easier digging grubs and hoeing potatoes. Little fellows in pinapores would spell us down and read us out, and a *chevaux de frise* of railly hedged the gawky louts on every side. Dear teachers, be kind to a country gawk—I speak feelingly.... Our teacher used to say that perhaps there was a future president in the room; and I thought, now, if I were he! so I commenced to prepare for future possibilities. He used to tell how his brother would lie on the hearth till after midnight, in the backwoods, studying by a bark fire, and how he became the Hon. Anson Burlingame,—you know the rest. So when our school closed, after a term of six months, I laid in a stock of bark and pitch pine, and stretched myself on the floor like him, night after night, in our cabin in the mines; but I never could feel any budding out of a Congressman, or a Minister to China,—only a sore and stiff body and a racking headache.

We mined and hunted with moderate success for six months, and when the school opened again we set up our camp in a shanty and plunged into theories and figures with fresh zeal. The same teacher presided, and, with a rare sympathy, he joined us in our bachelors’ hall. Now think of that and weep:—a gentleman of culture and refinement, herding with the clodhopper; declining the proffered hospitality of many a house, to act as missionary to two heathens. A rare fortune it was to us; for, besides being a spur to our ambition, he was the recipient of many dainties,—warm bread, pies, cakes, deserts—which found their way to our table from fairy hands. You may well believe that the bread we kneaded was sadly kneaded,—was it more so than theirs? In company with our teacher, we were invited into society; and, O the agony of that terrible ordeal. We could meet the eyes of

a panther, glaring from the bushes in the darkness, with more composure than two eyes peering from under a bonnet; for we knew the nature of the feline, but not of the feminine. What a strange, new world was here!

This term ended all too soon;—six months was the span—and our teacher went to Healdsburg to establish an Academy. We returned to the mines, but this time "luck" was against us; and after half a year's delving, we were only able to "clean up" six ounces of dust apiece. With this we took passage for San Francisco, and landed in the hands of the Philistines, at the "best house in town." It was not much of an improvement over our cabin; half the roof was gone, and we lay with our hands on our pistols, our rifles by our sides, expecting every moment to see the boot of a robber, protruding through the opening. Dawn was too slow in coming this time, and when it came we sped away to Healdsburg. Here we set up camp again in a rickety *shebang*, and took our seat in the school-room under our generous friend, Mr. Burlingame. This time algebra, geometry, and Latin made us groan and sigh for the wild life of a hunter. We commenced the term with seventy dollars apiece, and lived on bread and potatoes, with now and then a rabbit, or a *rara avis*; but six months found us with slender purses again,—seven dollars and a half between us—and two hundred and fifty miles from home. See what a fatality attends the figure six: Six months of work, six months of school; six months of work, six months of school; six months of work, six months of school; and we began to feel old although we were told that, but twenty years ago, our father was called to come and bless his twins.

Our teacher offered us free tuition as long as we wished to remain; but our bread and potatoes were gone, so we strapped our blankets and started on foot for

home, trusting to our guns for support. On the seventh day the prodigals hove in sight of their father's house, hungry, sore, and penniless and glad. Our school days were ended.

There is an orchard growing in that land, full of all choice fruits, which our hands have planted; and, if you will go with me, I will show you how to bud, and graft, and prune, and how, perchance, to eat the rare Butte peach, that bears our name.

INTEREST BY CANCELLATION.

NUMBER THREE.

BY DR. T. H. ROSE.

What is the compound interest of \$250 for 2 years, payable semi-annually at 6 per cent.?

	12	250	Prin.
		6	Time in years.
		.06	Rate per year.
		57.50	Interest.
		250	
		257.50	Amount.
	12	257.50	
		6	
		.06	
		7.725	Interest.
		257.50	
		265.22	Amount.
	12	265.22	
		6	
		.06	
		7.956	Interest.
		265.22	
		273.176	Amount.
	12	273.176	
		6	
		.06	
		8.195	Interest.
		273.176	
		281.371	Amount.
		250	
		31.37	Comp. Interest.

Those who have read the two previous articles on this subject, will readily follow the working of the above example. Any other example under this head may be worked in the same way. Were months and days given we would continue the work by taking the last Amount as the next Principal, and cancelling as before.

I will now work by cancellation an example in Partial Payments, which will serve as an easy model for all others.

2. SAN FRANCISCO, June 1, 1872.

For value received, I promise to pay, on demand, to Jones or order, Two Hundred dollars with interest at the rate of one and a half per cent. per month.

SMITH.

Indorsements:

September 13th, 1873, - - \$75.

January 15th 1874 - - - \$100.

What was due October 20th, 1874?

I first arrange what I call a time table—thus:

1872-1-1				
1873-9-13		1-8-12	612	\$75
1874-6-15		9-2	272	\$100
1874-10-20		4-5	125	

The four different dates are placed in succession. Subtracting downward we have in the 2d column the time—which reduced to days gives the 3d column. The last column gives the payments given in the order made.

From this table I readily work the example.

360	200	First Prin.
	612	Time in days.
	.18	Rate per year.
	61.20	Interest.
	200	
	261.20	Amount.
	75.	
	186.20	Second Prin.
360	186.20	
	272	
	.18	
	25.32	Interest.
	186.20	
	211.52	Amount.
	100	
	111.52	Third Prin.

360	111.52
	125
	.18

6.97 Interest.

111.52 Amount.—Answer.

To those who have followed me in these articles, an analysis of the above example is not necessary. It will be seen that the "time table," as arranged is a new and valuable feature. This with the succeeding cancellation renders it exceedingly easy to be understood and performed. I find no difficulty in teaching this method to boys of twelve, who in a week, will compute correctly the interest on any note when partial payments have been made. They first learn, and then follow the United States Supreme Court rule, as given in the books.

Bank Discount is worked by cancellation as simple interest and needs no further explanation.

True Discount may be found by placing on the left of the line the amount of \$1 for the given rate and time, and the principal on the right—and cancelling. There is no special advantage in cancellation in True Discount.

I have now said what I wished to upon the subject of Interest by Cancellation. I believe that pupils, teachers, and business men will adopt the system at once when they carefully examine and understand it.

Cancellation applies to most examples in arithmetic when multiplication and division are involved, and greatly simplifies them.

Merchants can use it in marking goods, to determine gain or loss, to find rate per cent. of profit and loss, to find cost when rate and selling price are given, to find profit or loss when cost and rate are given, to change gold to currency and currency to gold. Nearly all examples in Partnership, Barter, Stocks, land measure, wood measures, board measure, carpeting &c., &c., may be simplified and quickly worked by Cancellation, as I may at some future time undertake to show.

MICHAEL ANGELO AS PAINTER.

Two celebrated Florentines, Michael Angelo Buonarroti and Raffaello de Sanzio,—rivals, though friendly ones, during life, and constantly opposed to each other by their respective admirers for three centuries since,—founded the Roman school of painting, which before their time had not existed, and died with them and their immediate successors. The first named of these artists, when at fifteen, he began his career as a sculptor by carving the mask of a fawn, little dreaming that later in life, he would become equally famous as architect and painter.

Michael Angelo's first noticeable picture was a cartoon called the "War with the Pisans." It represented a party of Florentine soldiers surprised by the enemy while bathing in the Arno, and was executed in a contest with Leonardo da Vinci for the honor of painting one side of the Council-Hall in the Palazzo Vecchio. Da Vinci's sketch was the "Battle of Anghiari." Neither artist received the commission for frescoing the hall, the Senators refusing to thus decide upon the respective merits of the contestants, though the two wonderful cartoons became a veritable school of art for the painters of that age.

In considering the frescoes of the Sistine Chapel, we must remember that they are architectural ornaments rather than legitimate paintings, and, therefore, are necessarily more sculpturesque than picturesque. For this purpose the artist has created a new world in which physical potencies seem Titanic. His figures are a race apart from all the generations of the past and of the present. He aims to represent, not beauty, that is incidental, but force, majesty, and superhuman power. Taine says of him: "He passed his life in studying how to make the human form express energy, pride, audacity, despair, rage, ungovernable

passion, and heroic will." Certainly, it must be confessed that for the tender emotions of the soul, for that vast sphere of human existence over which love, compassion, joy, and faith, have sway we must not look to Michael Angelo. It is Castelar, I think, who says that the "frescoes of the Sistine Chapel seem as if painted by lightning." In the admirable photographs which we have all seen, the forms struggle and writhe, and suffer in an agony so real and life-like, that only a great soul in despair could, we imagine, have conceived designs so stupendous and appalling. But when we remember that Buonarroti was a man without love or friendship,—his platonic affection for the noble poetess, Vittoria Colonna, a woman with a heart as austere and pure as his own, supplying the place of both—we no longer wonder at the colossal conceptions of that august and solitary soul.

Keeping in mind, then, the misanthropic, gloomy, and lonely character of their creator, the mysterious powers, and awful significance of the Sistine frescoes seem but its natural outgrowth.

Twelve enormous pictures, by the most eminent artists of the time, cover two sides of the wall of the Chapel, but they are dwarfed into almost absolute nothingness by the masterly designs on the ceiling.

It was with the greatest reluctance that Michael Angelo consented to paint the Sistine Chapel, which Pope Julius II. commanded him to do at the instigation of the architect Bramante who hoped thereby to ruin the great sculptor. Angelo, at that time, knew nothing whatever of fresco painting, and was obliged, before commencing the work, to send to Florence for artists to instruct him in the methods. The furious impatience of the Pope, who was old, and wished to see the work completed before his death, prevented the artist from finishing up his designs as carefully as he himself wished.

The ceiling of the Chapel is an immense plane, lighted by twelve windows. A cornice separates it from the side walls. Time and daily clouds of incense, have toned down the colors to a dusky neutral tint, which adds much to their mysterious and weird effect. The grandeur of the conceptions, and the startling relief in which they are drawn, give them, as we said before, the effect of delicately chiseled sculptures. Beautiful nude athletes, like antique demi-gods, display their glorious limbs and wonderful attitudes on the cornices, in the span above the windows, and about the contours of the arch. Then come the Sibyl of Erythiara, Delphi, Cumæe and Libya. These alternate with the gray old prophets whose homes were the caves of Mt. Carmel and the groves of Lebanon. Chaos is next represented. The first light dawns. Adam, looking as if when awake he might crush a lion, is seen sleeping, and near him the newly-created Eve. The deluge follows with all its horrors, and lastly the Sacrifice of Noah. The whole array of Titans, seers, fates, green waves, lightnings, writhing men, and despairing women, is arranged in strange harmony over the vast space of the ceiling.

The separate scenes are so grand and awful, that even in the colorless engravings, it seems almost impossible that uninspired humanity could ever have imagined them. One of the most powerful of these conceptions, is the Creation of Man, when the Almighty, upborne by Seraphim, evolves Adam from the dust by a mere touch of His finger-tip as He passes swiftly onward. Burckhardt says that "this is the only successful example in all art, of the super-sensual perfectly expressed by a sensuous act."

The Creation of Eve is a composition of exquisite beauty and pathos. She throws herself towards the Creator with a gesture of the most consummate grace. He gazes upon her, not as a benignant

father, but a stern judge, as if he saw foreshadowed in her lovely lithe limbs and innocent eyes, all that grand tragedy of the ages, which, beginning in slaughtered Abel, culminated with Jesus on Calvary.

The Prophets and Sibyls, colossal, super-human figures are as grand as the Titans of Æschylus. "They are souls whose impressions flash like lightning; whose acts are thunderbolts," writes Henri Taine. Isaiah is reading the book of destiny. His brow is a dome of thought. He seems slowly lifting his face to Heaven at the angelic call. Jeremiah is robed in the sack-cloth of the penitent. His beard falls in vast, wavy masses like that of a barbarian king. His head is bent in anguish; his great, solemn eyes are heavy with unshed tears. Ezekial is filled with a divine delusion, and his face wears an upward look of rapture as if he talked with spirits. Daniel, with the afflatus of prophecy full upon him, pours forth his mystical revealings, as though the Eternal Jehovah Himself were dictating to him. The countenance of Jonah is filled with a great horror as he ponders on the fate of Nineveh,—his fingers mechanically counting the few days that yet remain to her. The aged Zachariah sways in the grasp of a deadly anguish which makes his whole being shiver, as if the shadow of death already brooded over him.

The Sibyls are sublime beyond all conception of sublimity. The venerable Perseis, bowed by the weight of eternities, bends grandly above the brazen book which her knotted hands hold closely to her awful, fathomless eyes. The Libyan Sibyl seems floating up from the desert, quivering with some coming thought which she yearns to give to mankind. Erythræ is young and mysteriously beautiful. The Cumæan wears the laurel on her august brow, and is indeed worthy to be the chosen of Hyperion. The exquisite Sibyl of Delphi, "which of all the Master"

works," say the critics, "expresses power and beauty in their highest union," uplifts eyes grander than those of a Hebrew Prophetess.

In the Last Judgment, painted many years later, on the end wall of the Chapel, nature is but slightly followed. The scene is represented as taking place in the blue air. On a sombre and sluggish stream in the first compartment, floats the boat of Charon, which art critics consider to be one of the most remarkable instances of *chiar oscuro* in the whole world of painting. Near it gleams the lurid red of Purgatory. Above, the dead, roused by the last trump, open their haggard eyes, rend asunder the ceremonys of the grave, and tear from their wasted limbs the winding sheet of the last toilet. The terror, the horror, the despair of those dreadful faces,—the unspeakable anguish in the imploring eyes,—are pathetic and awful to the verge of all human imagining. Near these a group of exultant women entone Hallelujahs to the Eternal. One of them, a mother, clasps her daughter to her heart with a joy which is incarnated ecstasy.

The Christ, a terrible figure, all anger and condemnation, will not listen to his pleading Mother, or even glance pitifully at the wretches whom he has condemned.

The most powerful part of this dreadful picture, is the writhing cataract of the lost, intertwined with hideous serpents, and tumbling headlong towards the yawning gulf beneath, whose waves of molten flame foam hungrily upward to seize their recoiling prey. Never was the genius of Michael Angelo more strikingly displayed than in that powerful coil of nude, Titanic limbs and torsos, plunging fiend-driven into hell. Some are languid with despair; others crazed with terror, or distorted with physical and mental anguish, in a manner which only the stupendous genius of the mighty Florentine could ever have imagined or portrayed.

The criticisms on The Last Judgment—it was painted thirty years later than the matchless frescoes of the ceiling—are want of gradation in the size of the figures, there being scarcely any difference in this particular between angels, demons, human beings, and divine personages; the introduction of grotesque and childish elements; exaggerated muscular action; the fact that the forms of the higher characters are not more ideal, their actions no more noble than those of the lower; and lastly a total absence of the usual insignia of celestial beings, such as glorious, extended wings, etc., so that it is often difficult to distinguish them from the mortals among whom they mingle.

In all Italy there are but two easel pictures from the pencil of Buñarroti, who despised this kind of painting which he called a "woman's occupation." One of them represents the Virgin kneeling and presenting the Christ-child to Joseph over her shoulder. It hangs in the Ufizii Gallery, in Florence, and exhibits the statuesque forms and severe drapery which distinguish this master. The other is in the Pitti Palace in the same city. In it the Fates appear as ugly, old women, contrary to the classic ideal which represents them as beautiful though stern young virgins. And yet, this picture of Michael Angelo's is a wonderful conception,—thoroughly Greek in the awful repose of those Titanic limbs, and the impassible unconcern of the three haggard faces as they spin and clip the thread of human destiny.

The National Gallery in London possesses two unfinished works of the Florentine Master. One called the "Manchester Madonna," is a transcendantly lovely presentation of the Virgin and the infant Jesus, who in this case realizes our ideal of the baby God. Four stately angels, grander than any carven divinity of ancient Hellas, surround the majestic woman and the glorious child. The other work,

which I cannot describe, as I have never seen a copy of it, is chiefly valuable, I imagine, because it is authentic.

In conclusion, we would say to those in whose aesthetic nature the cold splendor of sculptured marble finds no responsive chord,—to whom the exquisite grace of the Dionysus of the Uffizi,—the sublime statue of the Hebrew Law-giver, to whose shrine the Jews of Rome make weekly pilgrimages,—the infinite pathos of the two captives carved for the unfinished mausoleum of Julius II,—and the awful repose of the Dawn and Evening in the Medicean Chapel at Florence,—are but so much meaningless stone,—that in the few priceless pictures of the great Florentine Master which still remain to us, they will find all that the loftiest aspirations can desire of the beautiful, and the grand.

L. C.

THE GRANGERS AND EDUCATIONAL REFORM.

BY THE EDITOR.

That reform is needed in some parts of the educational machine, is probably true. None realize this fact more than intelligent teachers. But is not the inquiry pertinent, what part is it that requires reform? In the discussion before the Grangers' Educational Convention in April, there seemed a wide divergence in the views of speakers on this subject. One class, ably represented by Prof. John Le Conte, President of the University of California, Prof. Hilgard of the same institution, and other thinkers, made logical appeals in favor of a liberal education. The gist of their remarks was that it is the duty of the State, and for her best interests, to support a university where, Art, Science, the Ancient and Modern Languages, Mathematics, and Literature, should all occupy the same plane of instruction. Another class, of which Mr.

Edward Hallett, of Butte County, is the most prominent example, contend that when the State gives more than the ordinary branches of an education,—reading, writing, and the elementary rules of arithmetic, she transcends her functions, and evil only can be the ultimate result.

Here is a wide difference of opinion. And if Mr. Hallett's *argument*, as such, be compared to that of Prof. Le Conte, the most unobservant reader cannot but see that the latter has anticipated and refuted all possible objections, and made points very difficult for any opponent to answer.

But unfortunately, Mr. Hallett and his side present some stubborn *facts*. They urge that the end of all education, is to fit the student for the practical operations of life. And they triumphantly inquire, "Do the schools, from the elementary district school to the State University, accomplish this?" "Is one in a thousand of our graduates better able to earn a livelihood by having attended the public schools?" "Would he not be as capable, practically, if his foot had never crossed the threshold of a modern school-house?" And here the logic of facts is on the side of Mr. Hallett and his friends, and those who attempt to reply show only their own weakness and the strength of the enemy's position.

To us it appears that neither of the contending parties, correctly estimates the nature of this whole educational question. We say this with the greatest deference to the pre-eminent ability of Profs. Le Conte and Hilgard, and to their distinguished services to science and education. And we approach the question with the diffidence natural and proper to comparative youth and inexperience.

But our readers will probably decide with us, that careful observation and experience in the school-room; in the school-room from whence issue the carpenters and

joiners and mechanics—the children of the people, are of some value.

The minister in his pulpit, the lawyer at the bar, the physician from his study, and the farmer from his broad acres, can, undoubtedly, assist in the elucidation of the educational problem by shedding the light of their combined intelligence thereon.

But are not the teachers of the State—the practical teachers—not those who theorize, but those who daily come into contact with the latent energies, destined to rule the State and the Nation—are they not the proper joiners to consult as to educational reform—as to this question of repairing the scholastic cabinet?

This brings us again to the question—what is it that requires reform? Not THE PUBLIC SCHOOL SYSTEM. Some studies now taught may be superfluous; the adoption of others may be necessary, as more adapted to the wants of our day and land. But these things do not affect the system. That system pretends to give every child a plain English education and to prepare it for *the further education*. This is precisely what the much vaunted schools of Germany give—a knowledge of elementary facts and a general development, fitting the mind for *the further education*. And here, we believe, lies the mistake of those who consider this question from a purely theoretical standpoint. They consider it the province of the school to send out the child ready armed to battle with all the vicissitudes of life.

No school can do this. The schools of Germany, or France, or England do not do it, nor do they make the attempt. A mechanic will laugh at the idea of turning out a youth from the school-room, like a bright, new dollar from the mint, all ready to do, what it has taken himself years of practical observation and labor to acquire. Our schools amply fulfil the object for which they were organized—to prepare our children for the future education of

life. The question naturally arises here—what is this future education, and how is it obtained? It is as diverse, almost, as the individuals to be educated. It is no longer general, but special. It includes every profession and trade, every art and industry. From its special character, it can have no place in a system of schools where the motto is, “the greatest good for the greatest number.” Even in countries like Germany, where the good of the masses is not supposed to be the first object of government, special training finds no place in the common schools. For the benefit of those who are fond of quoting the Prussian schools, we will make the statement that, theoretically, our educational system is precisely similar.

In conclusion, it seems to us that the solution of this educational problem appears to involve two things. First—the establishment of elementary schools, or *gewerbe schulen* (on the plan of those in the German Empire,) *not in place of but supplementary to* our common schools. Second—the general adoption of a good *apprentice system*, by means of which boys and girls may learn by practice, that which even the best school, call it English or technical, classical or scientific, can do but imperfectly in theory. These two means will, we believe, satisfactorily solve the problem what to do with our boys and girls. And further, if these suggestions are ever carried out, will there be any further need of “educational reform?”

SCHOOL COMPOSITIONS.

The most difficult branch of instruction in our schools is, without doubt, composition. Teachers find it a constant vexation to the spirit, a trial to their patience, and with all their labor in drill and correction of ill-spelled, ill-written, and ill-arranged manuscripts, but, too often, the results are inadequate to the months of toil expended.

We were pleased, therefore, to see in the San Francisco *Evening Bulletin* of May 16, the following rules for teaching composition. They are simple, concise, and practical. The author, Fisher Ames, a member of the Board of Education of San Francisco, was formerly a teacher in New England. He used these rules, and we can readily believe, found composition no trial to teachers, and no such bugbear to learners as many of us. The rules were used by him in ungraded district schools, as well as in graded classes in villages. They are in their present form, intended for the use of pupils, but every intelligent teacher can so modify or change them, as to make them comprehend an entire course of instruction in composition. They are as follows :

"First—Select some simple subject, it matters very little what, provided it be within the range of your intelligence and attainments.

Second—Ask every appropriate question concerning the subjects selected, which your ingenuity and inquisitiveness can suggest, taking care to write each question down upon paper, and that their form shall be such that they cannot be answered by 'yes' or 'no.'

Third—Carefully examine the list of questions which you have written down, and determine which, in your judgment, should be answered first, which second, which third, and so on through the list.

Fourth—Write an answer to question number one, then to question number two, and so on through the list, embellishing and strengthening each answer with illustrations, quotations, syllogisms, figures of rhetoric, etc., to suit your taste or fancy.

Finally, read all of your answers in succession, and you will be thoroughly surprised and pleased with the success you have met with in writing. The best essay or composition upon any subject is one which answers all of the questions in their natural, and therefore logical order, which an inquisitive person, uninformed upon that subject may choose to ask."

A DAY OFF TERRA DEL FUEGO.

BY D. C. STONE.

On the morning of January 3, 1852, the good ship "Trade Wind," a fine clipper vessel of 2,400 tons register, was just entering the Strait of Le Maire, which lies between Terra del Fuego on the west, and the island of Staten on the east.

We had left New York about the last of November, previously bound for the land of gold, and enjoyed thus far, a most delightful voyage, varied, however, by a day of excitement and terror, when for many hours we struggled with a fire, which had gained considerable headway in the midst of our closely packed cargo, and which had threatened at one time, to drive us to our boats, four hundred miles from land, under the rays of a tropical sun. During that day of anxiety, our captain had turned the bow of the vessel westward, in order to lessen as much as possible our distance from the land, before we should be compelled to desert the ship, and consequently we had lost so much of our easting, that, some days afterward, when we were off Cape St. Roque, the most eastern point of South America, we were obliged to hug the land in order to work our way around the cape.

We were somewhat repaid for this delay by our first glimpse of land since our departure. The bright green vegetation close to the seashore, with the cottages of the fishermen scattered here and there among the trees, formed a beautiful picture; and we were amused in watching the catamarus, or fishing rafts, dancing on the waves at a safe distance from shore, ready to fly towards home if the weather should become threatening. We should have enjoyed this pleasant variation from the monotony of our voyage more freely, had it not been for the anxious look on the face of our experienced captain, who felt that

in keeping so near the shore, there was some danger of hidden rocks, which might suddenly bring our voyage to a calamitous conclusion. But we had now safely rounded the cape, and had sailed in nearly a direct course to the entrance of the Strait of Le Maire, having just grazed the edge of the pampero, off the River of Plate, but otherwise having been favored by wind and weather.

Our company of passengers, some forty in number, was an intelligent and pleasant one. Among them were eight clergymen and their wives, sent out by the Home Missionary Society to enlighten the rude inhabitants of California. A few of us, myself among the number, were on our second trip to the Pacific Coast. Our weekly journal, read aloud to the assembled passengers and crew on every Saturday, contained papers in the varied departments of wit, humor, essay, and description which were listened to with eager interest. Rarely, I think, has there been a body of passengers on a long ocean trip who combined more of the elements necessary to render such a voyage tolerable, and even agreeable.

On the 3d of January, then, in the middle of a southern summer, we had sighted the land round which we were to work our way into the Pacific. The day was superb, much resembling our finest autumn weather in California. Everybody was on deck. "The sight of any land would have been sufficiently exciting after weeks of sea life, but the view around us at this point had, much of universal interest. On our left lay the rugged, rocky island of Staten Land, with its broken, precipitous shores rising hundreds of feet above the sea level. On the right was Terra del Fuego, the land of fire, not so precipitous, or rather with its shores more varied with slopes and caves. Our minds reverted to our boyish reading of the tales of the early voyages, and also to the later pages of Darwin, in

his charming book entitled "The Voyage of a Naturalist," in which he gives a very interesting account of the expedition of the Fitz-Roy, in 1825, which spent many months in exploring the channels and bays which penetrate these islands. Darwin has given us in these volumes a graphic description of their inhabitants, their vegetation, and their animal life. In full view was a pretty little cove, named by Captain Cook nearly a hundred years before, Good Success Bay, and at the summit of the mountains behind it, rose a picturesque mass of basaltic rock, with its characteristic columnar structure clearly visible. In the gorges and ravines sloping down from the heights, lay masses of snow, still unmelted under the summer sun.

We looked in vain for any sign of inhabitants. Possibly, if we had taken the boats and gone ashore in Good Success Bay, we might have come across a camp of Fuegians, but time was too precious to admit of such diversion. We had a fair wind, and our Captain assured us that in all probability, before the sun went down, we should catch sight of Cape Horn itself—a promontory of 2,500 feet in height. The long summer day was before us, and if our favorable wind had continued, no doubt our hopes would have been verified. But in the middle of the day, the breeze decreased, and, although to look at the water rushing by the ship one would suppose we were making fair headway, yet, on sighting the hills on shore, we could see that we were really drifting behind. This seeming anomaly was readily explained by the fact that there is a stiff northerly current through these straits, and we had not quite wind enough to hold our own. However, toward evening, a stiff breeze sprang up, which enabled us to overcome the current, and we sailed out of the straits, keeping well to the south, for much as we wished to get a glimpse of the venerable sentinel guarding the outposts of the con-

tinent, it was far safer during the hours of the darkness to give him a wide berth. But we were now to be treated to a first-class sensation. About two or three miles dead ahead of us, was observed the occasional spouting of a sperm whale, and it soon became evident that he had a companion, probably a finback whale, and that the pair were engaged in a fight or a frolic. As they were in the direct line of our course, there seemed to be a possibility of a collision, and soon all the passengers gathered at the bows, watching the movements of the monsters, and anticipating their astonishment, when the huge bulk of our ship should forge between them and interrupt their sport. They remained at about the same spot, and sure enough, the bow of the ship struck the sperm whale a full, square blow amidships. The old fellow rose, apparently, a third out of the water—I was leaning over the rail just above his head—and turning up his flukes, disappeared below the surface of the water. I fancied that his wicked little eye gave a wink as he dived, as much as to say, "I'll fix you for all this!" We had some apprehensions of his return with revengeful intent, but either friend Physter was not vindictive, or he did not venture to attack an enemy so far exceeding himself in bulk, for we saw him no more.

A few years before, the ship Essex, in the North Pacific, struck a whale in the same way. The whale returned soon after, and stove in the side of the vessel with his furious blows. She soon sunk, the Captain and crew taking to their boats, in which they sailed 4,000 miles before reaching land, enduring dreadful extremities of famine. In 1851, the Ann Alexander, off the coast of Peru, was stove in and went down in a short time. Fortunately another vessel was in hailing distance, and the crew were rescued. Reflecting on these instances, we considered ourselves fortunate to have come off so well.

Soon after this occurrence, the long twilight began, our evening service—seldom omitted—was held on the deck, the beautiful and striking constellation called the Southern Cross, and the strange nebulae named the Magellanic clouds swinging into view. Next morning, we had lost sight of land, to see it no more, till the hills of California should rise to our sight, a regular Cape Horn snorter was howling through the rigging, and the broad winged albatrosses were quietly floating on the storm above and around us.

OYSTERS—if reports are true—are beginning to exhibit remarkable intelligence. Some fine oysters in the New York Aquarium have been daily fed with little dainties, by their attendant, without exhibiting any appreciation of the kindness until recently. One day, not long ago, he was surprised to see the shells of the oysters open at his approach, as if they expected something. So he put the food within the expanded shell of one of the bivalves, which immediately closed. This was repeated until the oyster became so tame as to allow the attendant to insert his finger into its shell. A person who witnessed this operation thought that the oyster would not know the difference if he put his finger in. He tried it, and instantly the sharp jaws closed with a force that made the experimenter squirm with pain. But as soon as the attendant touched the oyster it seemed to recognize him, and the imprisoned finger was released.

THE New York Evening High School, which began in 1869 with an average attendance of five hundred and fifty-five scholars, has had during the past year an average attendance of one thousand and thirty-six scholars.

At a recent auction in London, the chair in which William Shakespeare is said to have sat while writing most of his plays was placed on sale. It is an arm-chair of oak, with a slightly curved back. It was sold for \$225.

EDITORIAL DEPARTMENT.

Is Legislation Necessary?

The public attention is fully aroused to the necessity of establishing trade or labor schools, wherever the facilities can be found. Why not make the experiment in San Francisco? There are school buildings vacant, students may be had without stint, and good teaching material will not be hard to find. In view of the excellent results accomplished in teaching drawing, in this city—though but one hour per week has been devoted to that art---what could not be accomplished in a school where it ranked on a par with arithmetic,—where one hour daily could be devoted to it? It seems to us that Boards of Education in the various cities, have power to establish elementary technical schools, without special legislation, as long as no studies are pursued therein, outside of the course prescribed by the State Board of Education. In these schools, the branches chiefly taught would be, the elements of drawing, physics, chemistry, and botany, in addition to reading, writing, and arithmetic. These elementary technical schools need not, in any way, interfere with the workings of our excellent common schools. On the contrary, they should add only to their efficiency. We observe that Dr. E. S. Carr and Mrs. Carr are bringing this matter forcibly to the attention of the teachers of the State. From letters, received daily from the interior, we see that their remarks are highly approved by the best educators. Our legislators are

not always renowned for their judgment and wisdom, so we opine, it would perhaps be better, unless legislative action be absolutely necessary, for our State and City Boards to take cognizance of the demands of the people, and establish, or authorize the establishment, of a few elementary labor schools. Such action is, we believe, feasible and would lead to some practical results.

Our Contributors.

We shall be able, at an early date, to present to our readers articles by Prof. C. H. Allen, and Deputy State Superintendent Mrs. J. C. Carr, who have promised to become contributors to the JOURNAL. An article from John Swett, also, will appear in a short time. Mr. Swett always says something when he talks or writes; and the teachers who take the JOURNAL will be pleased and benefited by again hearing his voice. Joseph Leggett will, probably, in the July number, present his views on "English Syntax." His article will be a continuation of the one on English etymology in our first number. Mr. Leggett is one of the ablest and most original thinkers, whom it has ever been our lot to meet. His views are not merely bold and startling, but logical. We consider Mr. Leggett's withdrawal from teaching—he is now engaged in the practice of law in San Francisco—as a great loss to our profession.

An important article from the pen of J.

C. Gilson, a well-known and able teacher of Alameda County, and one from Prof. E. Knowlton will also appear soon.

Our readers, probably, see that we are determined to maintain the present high standard of the JOURNAL, in fact, to make constant improvement.

Our readers, like ourselves, will be pleased to see in this issue, another article from the pen of Elisha Brooks, whose contribution in our April number, "Reminiscences of My Early Life," was so generally admired. Mr. Brooks has led a varied and eventful life. His descriptions, half-merry, half-pathetic, and wholly interesting, have a charm to every reader of literary taste. We know our readers will be pleased to hear from him often, and we join with them in saying, the oftener the better.

Another article, which we know will attract general attention, is Mrs. L. A. K. Clappe's "Michael Angelo as a Painter." It is a grand pen picture, which places vividly before the mind of the reader, those works of the Great Master, which she describes. Not only this, but it is a fine lesson in art, and a careful perusal will benefit every person of refined taste.

Worthy of Attention and Study.

We believe teachers and students of language, will be richly repaid for a careful perusal of the able article in this number on, "How to Study Foreign Languages," by John S. Hittell, of this city. Mr. Hittell is well known on the Pacific Slope, not only as editor of the *Alta California*, but as the author of "Hittell's Resources of California," etc., etc. Anything from his pen is worthy of careful consideration. His method of learning, he has exemplified himself, as by means of it, he has acquired a considerable familiarity with seven or eight modern languages.

Deferred.

Owing to the universal desire of our country subscribers, we publish a large number of examination papers this month. This has compelled us to defer the publication of interesting articles by William Crowhurst, Principal of the Grammar School of Vallejo, and Prof. A. L. Mann, who occupies the chair of Latin and Greek in the Boys' High School, in this city. These articles, together with a number of others, will appear in our July number, which will be of even more than usual interest.

GENERAL NOTES.

BLANCA PEAK, in Colorado, the elevation of which was determined last year by Hayden's survey, is probably the highest point within the limits of the United States. Its height is 14,464 feet above the level of the sea. There are in Colorado over fifty other peaks which rise more than 14,000 feet above sea-level.

MR. CHAMBERLAIN, M. P., delivered an address on education and the disestablishment question at Leeds. He contended that the Church had been the greatest obstacle to the establishment of a national system of education, and advocated that some of the vast revenue of the Church, should be applied to securing a free education for every child in the land, and in doing something to provide better homes for the poor, both in cities and villages.

A COMMITTEE of the New York Medico-Legal Society, appointed to investigate the subject of "School Hygiene," recommend that the minimum age of admission to the public schools be six years; that the maximum attendance at school, for children under eight years, be three hours; that the schools be under medical supervision; and that schoolhouses should be surrounded on all sides with adequate open space, to secure light, ventilation and play-grounds.

THE ST. LOUIS KINDERGARTENS.—More than ten years ago, Miss Peabody, of Cambridge, Mass., — whose near relationship to Horace Mann is a significant coincidence—began to

prepare the way for the new dispensation in the East; and four years ago, Miss Blow, a lady of means, ennobled Western wealth and vigor by taking the first efficient steps for the introduction of kindergartens in connection with the public schools of St. Louis. St. Louis has now twenty-six kindergartens, in which over twelve hundred little children enjoy the greatest blessing of which childhood is capable—the blessing of vigorous, sound, full, all-sided growth. In each of these kindergartens, the work is directed by a lady, who has earned this privilege by a thorough and protracted course of theoretical training from Miss Blow and her most tried and most successful pupils; and each one of these lady directors, has charge of four to six volunteer assistants, undergoing a course of training.

The twenty-six kindergartens are distributed among thirteen schools, one half holding their sessions in the forenoon, and the other half in the afternoon.

The tuition is free, but each child pays \$1.00 per quarter for the use of material, unless the parents declare their inability to meet the demand, in which case the material too, is furnished free of charge; 75 per cent of the children pay their quarterly dollar.

The training of kindergarteners for the St. Louis public schools, is at present in the hands of Mrs. Hildreth and Miss Dozier, both pupils of Miss Blow, and eminently qualified for the work. Mrs. Hildreth conducts the lessons in the gifts and in Froebel's theory, and Miss Dozier has charge of the training in the occupations; each devotes one half-day in the week to this work. At the same time, the pupils of the training class are distributed judiciously as regular assistants in the kindergartens, where they are taught to work by a tried and competent director.

Miss Blow, the author of this great work at St. Louis, had for some time, been an earnest Sunday School teacher, when her attention was directed to kindergartening. She succeeded in interesting the president of the School-Board, who, in his turn, enlisted the sympathies of Supt. Harris, and it was concluded, that Miss Blow should go East to study Froebel, and then return to introduce kindergartening into the public schools. Miss Blow went to New York, where she studied one year with Mrs. Kraus-Boelte with remarkable success. As a proof of her rare singleness of purpose, we relate the fact that she left her relatives, with whom she had taken up

her abode in New York, in order to avoid the social duties that were interfering too seriously with her work.

In 1873 she returned and established the first kindergarten near her home in Carondelet, the school-board providing the building and furniture, and she the material, the salary of one assistant, and her own services. In addition to the paid assistant, she received three volunteer assistants (one of whom was Miss Dozier), whom she trained for the work. The second year brought her the first reward; two new kindergartens were established by the Board, one at the Divoll School, (given to Miss Dozier), and one in the Everett school (given to Miss Timberlake) while towards her own kindergarten more liberality was shown. In the third year, nine new kindergartens were organized, their directors being ladies from Miss Blow's class; and the fourth year fourteen new kindergartens were added, raising the entire number to twenty-six. At present, Miss Blow is in Europe, where she went to obtain a still better insight into the work of Froebel.—*The New Education.*

Meeting of the State Board of Education.

The State Board held a meeting at the office of the Superintendent of Public Instruction, on May 5th. Present, His Excellency, Gov. Irwin; the Superintendent, who is Secretary of the Board; Supts. McMeans, Landes, Rousseau, and Dunbar. Absent, Supts. Bolander and Lynch.

On the recommendation of the State Board of Examination, life diplomas were conferred upon the following named persons, who have presented satisfactory evidence of ten years' teaching:

W. H. Anderson, T. B. Ashbrook, Sarah J. Byrod, Jeanne A. Bassett, M. C. Brophy, A. G. Brown, Julia B. Brown, L. J. Chipman, Anita C. Ciprico, Ezra S. Carr, Villette J. Dunbar, Elizabeth Duncan, Anne Duncan, H. M. Fairchild, H. W. Fenton, Charles E. Fonda, Lorenzo Fellers, Sarah J. Folger, Roscoe E. Hewitt, Carrie Havens, Miss M. J. Hogan, A. B. Hughes, G. W. Horton, Stephen Hilton, Abba L. Holton, D. W. Jenkes,

Richard Kane, Lella Kretzer, Isabella Kent, C. M. Lewis, J. N. Lafferty, Anna McArthur, Sarah E. Miller, La Fayette Miller, M. A. O'Neill, Flora A. Parker, Miss H. A. Potter, Mrs. M. R. Rayl, Amanda Ryan, J. C. Ruddock, Mrs. A. H. Randall, Samuel Saunders, Thos. A. Saxon, Martha Stone, Ansel Smith, Robert S. Taylor, Louisa Thompson, F. A. Vestal, V. J. Van Doren, M. L. Weeks, C. S. Wood, Abel Theodore Winn, Helen Weir, H. C. Wilson, and William Zimmerman.

A committee appointed at the last meeting of the State Board to prepare a suitable Class Book for the use of teachers in the public schools, was granted further time for its preparation.

The committee on the publication of a School Manual, was also granted further time. Two recent works on school architecture, viz.: "School Architecture" by Hon. H. M. Henderson, State Superintendent of Kentucky; and "School Architecture," by Hon. J. George Hodgins, of the Canadian School Board, were recommended for the libraries of the County Superintendents.

A resolution was also passed, giving the trustees of school districts power to expend, not to exceed 25 per cent. of the school library fund, for such of the following periodicals as they may choose, viz.: *St. Nicholas*; *Monday Morning*, a weekly child's paper published by Henry Holt & Co., N. Y. City; *The Monthly Reader*, published by J. L. Shorey, Boston, Mass., for the younger pupils. *Harper's*, *Scribner's*. and *Appleton's* monthly magazines, were put upon the library list for the use of the older scholars.

ITEMS FROM COUNTIES.

SAN FRANCISCO COUNTY.

The Teachers' Aid Society on Saturday, May 12th, held their annual picnic at Woodward's Gardens. The day was a fine one; the Executive Committee, consisting of Mrs. L. K.

Burke, Miss Jennie Forbes, Miss Kate F. Hurley, had made careful preparations for the entertainment of the large assemblage. A May dance, drill by pupils of the Lincoln, Washington, and North Cosmopolitan Grammar Schools, a number of interesting class exercises, singing, and dancing constituted a varied and interesting programme. Owing to excellent police arrangements, the usual hoodlum festivities were omitted. The picnic was a complete success in a financial, as well as in a social point of view. Fully \$1,200 were realized.

The following ladies were elected teachers in the City Department in May: Misses Stanford, Pendergast, Miller, Day, Mrs. Smith, and Mrs. M. L. Pool.

The chief events of this month, have been examinations, and graduating exercises. Of the latter, the most interesting were held at Union Hall on the evening of May 23d, by the graduates of the Girls' High School. The graduating class of '77 was larger than that of any previous year, and the scholarship was unusually high. Diplomas were granted to one hundred graduates. The parents and friends of the young ladies, to the number of four thousand, filled this, the largest hall in San Francisco, to repletion. On May 24, thirty of these received additional honors as graduates of the Normal Class. Addresses were delivered by George Tait of the Board of Education, Deputy Superintendent Stone, Deputy State Superintendent Jeanne C. Carr, Ex-Superintendent James Denman, Ex-Deputy Superintendent Joseph Leggett, and others. The administration and advancement of the school under John Swett, were warmly commended.

On the evening of May 24, the graduates of the Girls' High School, held their annual party at Union Hall, as usual. The ball was a success financially and in a social point of view.

On Friday morning, May 24, three hundred and forty-five boys and four hundred and ninety-five girls presented themselves at the two high schools for admission to the junior classes. The subjects of examination on that day, were arithmetic and history. On Monday they were examined in grammar and geography, and on Tuesday, the ordeal was ended with spelling and word analysis. The number admitted were 700.

ALAMEDA COUNTY.

The Hayward School closed for the regular summer vacation Friday, May 11, until after the Fourth of July.

The California Military Academy, at Oakland,

closed its thirteenth year on May 22. An interesting programme was presented to the parents of the pupils. In the absence of Prof. McClure, the exercises were conducted by his son, the Associate Principal. They opened with a piano solo by Cadet W. G. Brittan. This was followed by a declamation by Cadet W. F. Fife, and an essay by Cadet Shaw, on the "Cause of the Last War in the United States." An essay on "Mexico and the United States," by Cadet A. Beceerra, followed. After a well executed duet for piano and violin, by Cadets C. D. Capp and E. M. Hills, essays on "The Glory of God", and on "Government," were read by Cadets I. N. Roberts and J. M. Walker. A declamation by Cadet W. H. Miles, and a piano solo by Cadet J. L. DeFremery were next given. Cadet W. F. Fife read a historic essay on the "Destruction of Jerusalem." Cadet F. W. Sweeney reviewed the ennobling influences of the study of nature in elevating character. A paper on "The Characteristics of the Dutch," was read by Cadet J. L. DeFremery. At the conclusion of this essay, Cadet F. W. Sweeney claimed "The Wounded Trooper." The concluding essay, "The Schools," was read by Cadet E. M. Hills. The exercises concluded with a school chorus, in which all the boys joined. The school separated until Wednesday, July 18.

Cyrus Wilson and J. D. Swett were elected school directors of Alameda City, at the annual election Monday, April 30.

The commencement exercises of the class of '77, Washington College, were held Thursday evening, May 24, at the College Hall, Washington Corners. Under the superintendence of Mr. and Mrs. S. S. Harmon, this college has taken rank among the foremost academic institutions of the coast. The graduating exercises indicated a high order of literary culture in both teachers and pupils. The graduates are: Miss Annie Archer, of Linden; Miss Mattie Henshaw, Chico; Miss Jennie Clark, of Modesto; Mr. Edward Baker, of Red Bluff; Mr. J. N. Ziegenfuss, of Mission San Jose; and Mr. William Mau, of San Francisco. In Washington College the sexes are co-educated, and five years of successful experience, demonstrate that with competent management, better results in scholarship and higher, purer character are attained than where boys and girls are separated. Mr. and Mrs. Harmon should have the thanks of every true educator for their labors in the cause of co-education.

A very pleasant (for the parties directly inter-

ested, at least) episode at the commencement exercises of Washington College, in this county, was the marriage of Mr. Henry A. Kinney to Miss Selma S. Schandorff, both of the corps of instructors of the college. Rev. S. S. Harmon, an uncle of the groom, performed the ceremony.

The closing exercises of the Oakland High School, took place in that city, May 25. There were thirteen graduates, whom Superintendent Fred. M. Campbell, in a felicitous little speech, presented to the Board of Education. The President. Dr. R. E. Cole, with a few feeling and impressive remarks, presented the diplomas.

Professor George Davidson, of the U. S. Coast Survey, and President of the California Academy of Science, has been appointed by Gov. Irwin, a Regent of the University of California.

Miss Pinkham, a teacher in the Oakland School Department, has resigned her position, preparatory to taking the position of Principal of the Preparatory Department of Mills' Seminary.

SANTA CLARA COUNTY.

An attempt is being made to reduce the salaries of teachers in the San Jose schools.

Prof. H. B. Norton, of the State Normal School, will deliver the address to the graduating class of the Santa Clara Public School, on the 1st of June.

The State Normal School will not reopen until the 7th of August.

Miss Alderson was elected Vice-Principal of the Second Street School.

The San Jose schools close on the 8th of June.

San Jose expended about \$80,000 on her public schools for the school year 1876-7.

Arrangements are being made to hold a State Educational Institute, at the Normal School, during the month of July.

Where Prof Allen, of the State Normal School, has been and what he has been doing, may be seen in our Institute reports. About the beginning of July, he will be joined in Siskiyou County, near Mount Shasta, by Prof. Bradly and some other teachers. A few days will be spent in exploring, botanizing, etc., and on the Fourth, Mount Shasta will be ascended by a party of picnickers, to whom Prof. Allen has consented to deliver a Fourth of July oration, from the summit of the mountain.

SAN MATEO COUNTY.

Supt. Hartley has just finished his annual tour of the schools of the County. They are said to be in a very prosperous condition.

Miss Bella McClellan has been appointed assistant in the San Mateo School.

Miss L. Ayres assumed charge of the Searsville School, on Monday May 6.

The Redwood City School, G. P. Hartley, Principal, held its closing exercises, in the latter part of April. The school rooms were crowded, and the programme an unusually in-

teresting one. The attendance of patrons of the school was very large, and encouraging remarks were made by Rev. Mr. Jewett, Rev. Mr. Mitchell, Mr. O'Connor, and others.

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**Teachers' Institute, Yuba Co.,
April 25, 26, 27.**

The Institute met this morning at nine o'clock at the District Court room, and was called to order by Superintendent Steel, who briefly stated the object of these annual gatherings of the teachers. Mr. E. K. Hill was chosen Vice-President, B. Gurney, Secretary, and Miss Hattie A. Pratt, Assistant Secretary.

Messrs. H. C. Babcock, W. S. Babcock, E. K. Hill, Mrs. Imogene W. Davis, and Miss Hemenway were appointed a Committee on Introduction, and Mr. G. Isaman was selected to act as critic for the day.

The regular work of the Institute was commenced by Professor Allen on the general utility of Teachers' Associations. He was followed by Mr. Hill who elucidated his method of teaching reading, advocating elocution and gesticulation in bringing out more clearly the meaning of the author. An animated discussion of this subject was continued to the hour of closing the forenoon session. After roll-call in the afternoon (to which quite a number failed to answer), Mr. H. C. Babcock presented "Grammar," illustrating his manner of teaching that subject by having a class of his pupils write and mark sentences according to his system of notation, which they did very readily, showing a good degree of practical knowledge on the subject. After this Mrs. Carr talked to the teachers on natural history and kindred subjects. The critics read what errors they had noticed during the day. In the evening Mrs. Carr delivered a very entertaining lecture on "Education at the Centennial."

Teachers Present.—H. C. Babcock, W. S. Babcock, Lizzie P. Rumery, Mrs. Hapgood, E. K. Hill, Mrs. Imogene Davis, Cecil Mason, E. Amelia Coul, Mrs. E. A. Southworth, B. Gurney, Miss M. M. Hemenway, Hattie A. Pratt, Miss E. L. Jorey, S. M. D. Smullen, S. G. Isaman, Mrs. N. Foulke, Miss Alice Paine, Hattie A. Foster, Charles Colvilland, T. P. Rumery, C. Anna Rhoads, Almira Robacher, H. A. Clark, E. A. Wheeler, Clara Love, Emma Squires, Anna Davidson, Alice D. Tanner, Jennie M. Alley, Mrs. L. Raisch, C. H. Doyle, Miss Lizzie Leach, Mary McMenamin, Miss Kate Doyle, Miss Mary Pool, D. A. McPhee, Mrs. Carrie

Newberry, S. Johnson, Miss Nellie Smith, Mrs. E. K. Hill, J. A. Poage, A. M. Powers.

SECOND DAY.

The Institute opened this morning at 9 o'clock, with singing. On calling the roll quite a number were tardy, which fact was commented upon sharply by Superintendent Steele.

Messrs. E. K. Hill, A. M. Powers and D. A. McPhee were appointed a committee on resolutions, and Mrs. Imogene Davis and Miss Lizzie Leach, were selected to act as critics of the day.

Professor Allen gave the teachers a number of excellent hints on the manner of conducting a recitation in arithmetic, giving various illustrations on the black-board.

Mrs. Davis followed on the subject of geography, during which she presented her method of map-drawing and the manner in which she managed to secure attention.

After the recess, Miss Belcher and Professor Allen talked to the Institute on the subject of drawing, its uses and the way to teach it.

A spelling lesson of twenty-five words was given out by Professor Allen, of which five teachers spelled correctly all the words.

The afternoon session was commenced by resuming the subject of grammar from yesterday, and was very fully discussed by those present.

The subject of botany was taken up, Mr. Isaman introducing the subject, who was succeeded by others.

Oral teaching and object lessons received considerable attention. Some of the teachers advocating the idea that oral teaching was the best way to teach young children to become independent thinkers, as by this means they are taught to be more observing, and are more apt to ask how and why such a thing is so. On the other hand a few contended that a certain amount of text-book training helps the child to understand better; gives them a better liking for books, and makes them think concisely and systematically. The remainder of the time for this subject was occupied by Mr. Samuel Johnson in reading a carefully prepared essay on text-books, and how to use them.

The critics reported all the errors they had noticed during the day, showing that those who are familiar with public speaking are apt to make mistakes as well as those who seldom attempt it.

Prof. Allen's lecture on "How and What to Read" was full of good thoughts very clearly and ably expressed, and we will not mar the beauties of the ideas by a synopsis of it.

THIRD DAY.

The Institute reassembled this morning at 9 o'clock, and opened with vocal music. Mr. H. C. Babcock, and Miss E. L. Jory were appointed to act as critics for the day.

Mr. O. P. Workman occupied the first half hour in giving his method for conducting recitations, stating the object for which they have been studying.

Professor Allen conducted an exercise in arithmetic, commencing by giving the Institute examples in rapid computation. He recommended teachers to have similar exercises to awaken the interest which is so apt to be flagging. He says, "have your pupils do their thinking before attempting to perform a difficult problem, giving the testimony of Professor Pierce, the eminent mathematician, who says: "If I had but five minutes to perform a difficult problem," and my life depended on gaining the correct result, I would spend the first three in thinking about it and the other two in performing it." All explanations should be given in small numbers and the results only should be given in the larger numbers.

This brought out considerable discussion, quite a number dissenting from it.

Mr. Johnson then explained the metric system.

The afternoon exercises were resumed by Mr. W. S. Babcock, on the subject of fractions, who gave his manner of teaching this rather difficult part of mathematics, taking a unit as a standard and proceeding to divide and sub-divide it as often as necessary.

Dr. Carr gave a few reminiscences of a school-house, the kind of text books used, and showing an old Dabold arithmetic that he used forty years ago, saying that this book appeared much larger then than now. This was accompanied in the school-room by Murray's grammar, and the old English reader. The Doctor says that one of the reasons why so few speakers are able to speak without laying themselves open to criticism, is that when studying grammar, they never make any application of it. Continuing, he says that no teachers teach exactly the same way and ought not to do so.

Composition was taken up by Miss Hemenway who elucidated very concisely an excellent method of teaching the elements of this (to pupils) rather disagreeable subject.

The reports of the critics were read, and it was found that teachers have not yet learned to pro-

nounce all the words correctly, and use the right grammatical expressions.

The following resolutions were received and adopted, after which the Institute adjourned *sine die*:

Your committee appointed to draft resolutions for consideration would respectfully report the following:

We, the teachers of Yuba County, State of California, are resolved:

First—That, because many teachers are unable to avail themselves of the advantages of a thorough professional training in our State Normal School, and because we believe Teachers' Institutes, under the instruction of the State Normal School and other able educators, are the best means of supplying this want, we respectfully recommend that the sessions of these Institutes be extended to a full week or more.

Second—That we heartily indorse the action of the State Board of Education in relation to Swinton's Language Lessons, and we will use them to the fullest extent permitted by law.

Third—That we gathered great profit and inspiration from hearing the able lecture of Mrs. J. C. Carr on the subject of "Education at the Centennial," and would recommend it to the consideration of all the friends of Education. We cordially indorse the schemes for introducing more technical education into our public school system.

Fourth—That we highly appreciate the services of our worthy Superintendent, T. H. Steel, in conducting the Institute so efficiently, and his untiring zeal in the interest of the public schools.

Fifth—That we thank the Sheriff for honoring our assembly by displaying the United States flag from the flagstaff on the Court House.

Sixth—that we present our thanks to Professor Allen for his able, and efficient services during the session of this Institute.

Respectfully,
D. A. MCPHEE,
A. M. POWERS, } Committee,
E. K. HILL,

This resolution was also adopted:

WHEREAS, A friend and brother in our profession, Mr. A. G. Drake, has been removed from us by the hand of death, we wish publicly to express our appreciation of his worth as a teacher and friend, and our deep sorrow for the loss our profession has sustained. We hereby express our sympathy with the bereaved family, and will ever cherish his memory as a high example for our emulation.

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Teachers' Institute, Nevada Co.,
Held May 7, 8, 9, 10, and 11.

MONDAY, May 7th 1877.

The Teachers' Institute convened to-day at $1\frac{1}{2}$ o'clock p. m., Superintendent E. M. Preston in the chair. After some opening remarks by the

Superintendent, the organization of the Institute was completed by the appointment of J. E. Carr, Secretary and Miss Agnes Farrell, Assistant Secretary. Mr. N. Kennedy was elected Vice President, and Prof. Carmichael, critic for the day. The Secretary then read the Constitution and By-Laws. The roll was then called, and there were found to be 53 teachers present, and 43 absent. The Superintendent then appointed the following committees: Committee on resolutions—N. Kennedy, Geo. E. Robinson, J. C. Boynton, J. C. Wells and Miss F. Goodspeed. Committee on text-books—Frank Power, A. Burrows, L. Zastrow, Z. T. Smith, J. G. O' Neill, Miss H. A. Potter and Miss Lizzie Banks. Committee on introduction—F. Power, C. H. Crowell, M. B. B. Potter, Miss Mena Novitzky and Miss Agnes Farrell. Committee on music—R. E. Robinson, H. F. Courier, J. T. Wickes, Miss A. P. Davenport and Miss M. Hawley. Committee on Institute—Frank Power, C. H. Crowell, P. J. Carmichael, S. A. Bulfinch, A. Burrows and Z. T. Smith. Upon motion it was ordered that the Institute have a Query Box, and that the same be placed under the charge of the Board of Examination. Prof. Crowell then took charge of the Institute, while he illustrated his method of teaching word analysis. A discussion then ensued upon the question; "*Resolved*, That Institutes as at present conducted are failures," and A. Burrows, F. Power, J. C. Boynton, N. Kennedy, P. J. Carmichael, Miss F. Doom, Miss Mena Novitzky and Miss Potter took part. The general tenor of the discussion seemed to be, that the time of teachers would be better employed in visiting schools in actual operation, than in attending Institutes.

TUESDAY, May 8th, 1877.

The Institute met and was called to order promptly at 9 A. M. Mr. R. E. Robinson led the Institute in singing. Miss Hattie Dickerman presiding at the organ. Mr. Burrows was elected critic for the day. Miss Lizzie Bank., of San Juan, was then introduced and explained her method of teaching language lessons, which was certainly very fine, and which commanded the undivided attention of the Institute. Miss Doom then exemplified her method of teaching Primary numbers, and for that purpose used the teachers as pupils. Mr. Burrows and Mr. P. J. Carmichael followed Miss Doom upon the subject of primary numbers, after which the Institute took a ten minutes' recess. After recess the Institute was favored with music, Mr. Robinson leading and Miss Dickerman presiding at the organ. Prof.

Norton of the Normal School, then entertained and instructed the Institute for a short time on the importance of teaching natural history in a practical manner. Mr. J. C. Boynton of Union Hill, then took up the subject of primary geography, and introduced a number of bright-eyed and intelligent pupils of his school to give a school-like appearance to the exercise. It was very evident that Mr. Boynton teaches the study successfully, if his pupils are any index.

AFTERNOON SESSION.

The roll was called and 60 teachers answered to their names, and 30 were found to be absent.

The Institute was then opened with music. Mr. Frank Power then gave an interesting lesson upon phonetics, and advocated a reform in our methods of spelling, so as to eliminate all unnecessary letters from words, and he claimed that there were a large number of words containing letters that were of no earthly use. Prof. Carmichael then lectured upon school government, and after recess Prof. Norton lectured on drawing.

TUESDAY EVENING SESSION.

The Institute met at the Theater at 8 P. M., Supt. E. M. Preston in the Chair. Miss Maud Byrne sang "Gathering Shells on the Sea Shore," Miss Allen presiding at the piano, Prof. Norton, of the Normal School, was then introduced, and gave one of his superb lectures upon "Leaves from the Stone Book," which held the audience spell-bound for an hour and a half. The Institute then adjourned.

WEDNESDAY, May 9th.

The Institute met at the Washington School House at 9 A. M., Supt. E. M. Preston, presiding. The teachers sang "Home Again," Miss Dickerman presiding at the organ, Frank Power then explained his method of teaching Grammar, after which J. G. O' Neill, of Columbia Hill, opened the discussion upon the subjects of Least Common Multiple and Greatest Common Divisor, which caused much animated talk upon methods of teaching the same.

RECESS.

After recess, music was furnished by the same persons as before. After music, Mrs. Dr. Carr was introduced, and spoke upon Botany, and the best ways of presenting it to children. The exercise was of unusual interest, and was made the more so by the introduction of specimens of plants and flowers, admirably arranged, and selected with special reference to the wants of the

teachers up here in the mountains. Prof. Crowell then addressed the Institute upon School Organization, and was followed by Mrs. Carr and Prof. Norton, in which the relation of the Grangers to teaching, was discussed.

WEDNESDAY AFTERNOON, May 9th.

The Institute met as usual, promptly at 1½ o'clock, President Preston in the Chair. Roll called, and about 70 teachers found present,

Music was then furnished, after which Prof. M. B. B. Potter, of North San Juan, conducted an exercise in Spelling. He gave instructions both theoretical and practical. Prof. Norton then took up the subject of Physical Geography, which it is useless to say, was handled in a manner which showed that the Professor was in his element. After recess, Mrs. Carr explained the Kindergarten system of education, which was most complete and lucid.

THURSDAY, May 10th.

Institute was called to order promptly, President Preston in the Chair. Prof. Potter reported the result of the lesson in spelling, which seemed highly satisfactory to the gentlemen, and pleased those who did not miss any words. Prof. Norton then took up the subject of Comparative Anatomy and Physiology, and illustrated the subject by copious diagrams upon the blackboard. J. E. Carr then conducted a class exercise in percentage. The class did admirably. M. A. Burrows spoke against the present systems of exclusive education, and advocated the doctrine of "Free Education," or education in which the industrial classes should have a voice.

After recess Mr. Courter gave a class exercise in reading, which was cut short by his time being limited. Prof. Carmichael then spoke upon "Methods of Recitation," which were very exhaustive. The special Committee, appointed to consider the advisability of adjourning *sine die*, this evening reported adversely to adjournment.

THURSDAY AFTERNOON, May 10th.

Institute met promptly at 1½ P. M. Vice-President Kennedy in the chair. The roll was called, and it was found that several teachers were tardy, but most of them came in before much had been done. Mr. Ashbrook then exemplified his method of teaching penmanship. Mr. A. J. Tiffany then illustrated his methods of teaching map-drawing by giving a black-board exercise. After recess Miss H. A. Potter conducted an exercise illustrating the manner in which she teaches color, which was very

beautiful, and showed how readily children can acquire a knowledge of color when properly presented. Mr. Ashbrook then developed his system of teaching reading, which was much of the same character as that of Mr. Courter. The queries were then read by Prof. Crowell, these caused considerable discussion, after which the Institute adjourned to meet at 8 P. M.

THURSDAY EVENING.

Institute met at the Washington School House at 8 P. M., Vice President Kennedy in the chair. After music Mr. J. T. Wickes read an essay upon the education of the future. M. A. Burrows then spoke against our public school system, and advocated very radical reforms. The Institute then resolved itself into a Social Literary Society, and Messrs. Plummer, O'Neill, Ashbrook and Miss Wills entertained the Institute with recitations, and R. E. Robinson and Miss Hattie Dickerman with music until a late hour, when the Institute adjourned.

FRIDAY MORNING, May 11th.

Institute met promptly at 9 A. M. Superintendent Preston, presiding. Mr. Robinson and Miss Davenport then favored the Institute with music. The roll was then called and nearly all the teachers found present. The minutes of Wednesday and Thursday were read and approved. The Critic's report was read, and upon motion, approved. Mr. Zastrow then conducted an exercise in history, which, as he took up the causes which produced the Rebellion in the United States, caused considerable discussion. Mr. R. E. Robinson elucidated his methods of teaching ratio and proportion. After recess Mr. Courter gave an exercise in music, showing his methods of teaching it. Mr. Crowell then read a number of names of teachers, who pledge themselves to edit an educational column in the Nevada City Weekly Gazette in succession, each for the space of one week.

The work of the Institute being about completed and the time having arrived for final adjournment, the committee reported as follows:

1 Resolved, That the thanks of this Institute be, and are hereby tendered to Mrs. Dr. Carr Deputy State Supt. Public Instruction, and Prof. Norton of the State Normal school for their presence and valuable assistance in conducting this Institute, also to the Board of Education of Nevada City for the use of this school building; to the Press of the city for the full and correct reports.

2 Resolved, That our thanks are due to esteemed Supt. E. M. Preston, and the other officers for the efficient manner in which the exercises of our session have been conducted.

3 *Resolved.* That in our opinion less technical instruction, more of the natural sciences and practical work, ought to be introduced into our curriculum of study to meet the demands of the age.

N. Kennedy, Geo. E. Robinson, J. C. Boynton, John C. Wells, Florence Goodspeed, Committee on Resolutions.

Teachers' Institute, Santa Cruz Co., Held April 24, 25, and 26.

Institute assembled in new schoolhouse Tuesday afternoon, and was called to order at 2 o'clock by Professor Hobbs. Mr. Wm. W. Anderson, of Santa Cruz, was chosen Vice-President, Clarence M. White, Secretary, and Miss Glora F. Bennett assistant Secretary. Further organization was for the present deferred. Vice-President Anderson then assumed the chair, and introduced the County Superintendent, who delivered his opening address. The address was replete with many valuable suggestions. It reviewed the improvements made in schools in this county, hinted at some that might, could, and should be made, and criticised in a calm and dispassionate manner the system of quarterly examinations. The Superintendent also advocates the examination of Normal Graduates, contending that graduation should rather prepare them to undergo the test than to exempt from it. The Vice-President then announced that topics touched upon by the address would be legitimate subjects of discussion. The most masterly inactivity prevailing among the teachers, the Vice-President lead the way in a most interesting speech.

RECESS.—During recess the following names of teachers were handed to the Secretary:

W. W. Armstrong, Monterey County; Pearl McCann, Santa Cruz; Annie Bagnall; Julia A. Gillman, Pajaro; Minnie C. Bassham, Corralitos; Edith Ward, Roach; M. A. Borroughs, Santa Cruz; Shelden Raney, Felton; Maria Murdock, Santa Cruz; Flora Hill, Santa Cruz; W. H. Hobbs, Soquel; Clarence M. White, Corralitos; J. H. Linscott, Watsonville; W. W. Anderson, Santa Cruz; Hattie L. Barham, Pajaro; Fannie Coffin, Davenport; Glora F. Bennett, Santa Cruz; Laura A. Blood, Mountain; R. J. Bennett, Newell Creek; M. E. Baker, Soquel; Eva L. Richards, Bay View; Clara N. Daubenbiss, Hill; Mrs. E. Spalsbury, Santa Cruz; Georgiana B. Kirby, Scott's Valley; Ella E. Howe, Santa Cruz; Mrs. C. D. Holbrook, Santa Cruz; W. H. Galbraith, San Andreas; Mary E. Morrison, Seaside; Leo-

nora Temple, Sunny Side; E. C. Newell, Santa Cruz; Mrs. L. D. Gardner, Santa Cruz; Olive A. Parshall, Santa Cruz; Thomas Brady, Aptos; W. R. Wilson, Green Valley; Mrs. H. M. Rostran, Happy Valley; Ida M. Adams, Santa Cruz; Dugald TeLean, Casserly; M. A. Carlisle, Soquel; S. Clara A. Brimblecom, Boulder Creek; Ida J. Lemon, Hazel Brook; Agnes Effey, Vine Hill; J. M. K. Bateman, Bay View; May Cooper, Live Oak; Fannie Gallagher, Pajaro; Clara M. Parker, Laguna Minnie M. Cox, Pajaro; Mollie Root, Santa Cruz; R. A. Morton, Pajaro; Joseph K. Fallon, Carlton; George W. Hursh, Union; Lizzie Hopkins, Pajaro; Wyllis A. Silliman, Railroad. Mary Gallagher, Pajaro.

Professor Allen then occupied the time till the close of the session with a lecture on the order to be observed in teaching. Moved by Professor Anderson that a committee of three be appointed on programme. Prof. Anderson, J. W. Linscott, and W. H. Galbraith, appointed as such committee. Adjourned till evening.

EVENING SESSION.

Institute convened in M. E. Church at 7 o'clock. The session opened with a song and chorus by Teachers' Glee Club. Prayer was offered by Rev. Mr. Dodge, after which Miss Pearl McCann sang, artistically, a sweet song. Supt. Hobbs then introduced Prof. Allen of the State Normal School, who entertained and instructed the audience by a sensible and comprehensive address on "What and how to read," which was replete with good advice for all. Singing of "Good Night" concluded the session. Adjourned until Wednesday, at 9 A. M.

Wednesday forenoon, Institute opened at 9 A. M. in the school building. Minutes of preceding day read and approved. Roll Call. Professor Allen then being introduced, occupied the attention of the Institute by giving instruction in Language Lessons adapted to children in lower grades, carrying the instruction well arranged through the first and second years of the school work. In this the Professor was practical as well as philosophical. Some remarks were elicited which showed a wide-awake interest on the part of the teachers present. Recess of ten minutes.

The Institute was now favored with a most charming address on the subject of Botany, by Mrs. Carr. The lady is an enthusiastic naturalist and for the time being all present were infected with botanical tastes and aspirations. She would commence with the most elementary forms of vegetation: cell life, confervae, algae, fungi,

lichens and mosses—telling the children to bring specimens. Mrs. Carr also encouraged such teachers as have not studied Natural History. To be a naturalist is not essential. Sufficient knowledge for imparting in common schools orally, will come at the beck of will and energy.

She recommends as books of reference, Gray's Field, Forest and Garden, Miss Youmans' Works, and the Encyclopedias.

WEDNESDAY afternoon. Professor Allen entertained the Institute with a lesson on writing and drawing. The Professor would commence with a discipline of the muscles, paying more attention to motion than to form, to how anything is drawn than to what is drawn. Recess 10 minutes. Language Lessons continued by Prof. Allen.

EVENING SESSION.—Assembled at Methodist Church. Opened with prayer by Rev. Mr. Dodge. Music by the choir. Mrs. Carr was then introduced by Vice-President Anderson, and delivered a most interesting lecture on Education at the Centennial. The lecture was a series of reminiscences of an entertaining character, but these minutes can furnish no adequate account of the address. Moved that the address be requested for publication. Carried. Music by the choir. Adjourned.

On Thursday morning after the usual routine of opening the session, Mrs Carr gave an address touching upon the tendency of educational matters at the present time, and dwelling at some length on spelling-reform, of which she is an enthusiastic supporter. After a short recess, Prof. Allen gave an object lesson on air, and, by request, repeated his lesson on drawing.

After the opening of the afternoon session, Prof. Allen continued his instructions on language lessons. After a recess, Mr. Clarence White illustrated his method of teaching spelling. The subject of algebra was then taken up, the discussion being introduced by Prof. Anderson.

At the evening session Prof. Norton delivered a lecture on "A Dead World" illustrating his remarks by a magic lantern, some of the illustrations being very striking.

Friday morning the Institute opened at 9 A.M. After reading minutes, Prof. Norton gave a lesson in history, to show that there is a science of history, and that it is not a mere collection of names. To those who have been accustomed to follow Swinton's mass of names and dates, the Professor's method must have been both interesting and startling.

After recess Prof. Norton gave a lesson on Physical Geography. This is the first time Prof. Nor-

ton has appeared before the teachers of this county; but he has taken them by storm.

The Committee on resolutions appointed at the beginning of the morning session, reported as follows:

Resolved, That we the teachers of Santa Cruz county, tender our sincere thanks to Prof. Allen, Mrs. Carr and Prof. Norton who have so kindly aided us by their instructions, encouraged us by their advice, and raised our enthusiasm to a degree that should be plainly perceptible in our future work.

Resolved, That the labors of W. H. Hobbs, as County Superintendent, deserve a kind recognition from the teachers of our county.

Resolved, That our thanks be tendered to the trustees of the M. E. Church, for the use of the building during our evening sessions.

Resolved That we, as teachers, will make every endeavor to carry out in our work the suggestions that have been so ably presented to us.

E. C. NEWELL.
W. R. WILSON.
M. M. COX. } —Committee.

The resolutions being adopted, the Committee were discharged. The address delivered by Superintendent Hobbs at the opening of the Institute was requested for publication. After singing and reading of the minutes, the Institute adjourned *sine die*.

Annual Examination of the Girls' High School.

JUNIOR CLASS.

For the benefit of teachers in city schools, as well as for those teaching "Advanced Grades" in county schools, we publish the following examination papers. In our next issue, we shall have the papers given to the first grades for promotion to the High Schools.

GRAMMAR.

to Questions, 5 Credits each.

1. Define and give a sentence to illustrate:
 - I. A neuter verb.
 - II. A relative pronoun.
 - III. A co-ordinate conjunction.
 - IV. A complex sentence.
 - V. A common noun.
2. "A verb must be put in the form required by its subject."
 - I. State the verb inflections in the indicative mood, present tense.
 - II. Past tense, indicative.
 - III. When to use *shall*, and when *will*.
 - IV. Singular subjects connected by *and*, by *or*, or *nor*. Rule.
 - V. Collective nouns.
3. Correct and tell the reason why:
 - I. He is older than me.
 - II. Who do you take me to be?
 - III. Whom did she marry?
 - IV. She is older but not so tall as her sister.

- V. We only missed four words.
4. State a general rule that will apply to the corrections of these sentences:
- I. I love pie, and hate cabbage.
 - II. I purchased two apples.
 - III. In my opinion, I think you are right.
 - IV. That is a tremendous big orange.
 - V. Your way is different to mine.
5. Correct, and state the general rule:
- I. Never interrupt persons when speaking.
 - II. It is something I know nothing of.
 - III. She is the prettiest girl I know of.
 - IV. Every teacher must make their reports on the first of each month.
 - V. I knew nothing about John going away.
6. Correct:
- I. This drawing was done by a girl that attended school merely for her own amusement.
 - II. Distribution of adverbial phrases and clauses.
- Rule.
- III. Place of the *if* clause.
 - IV. In adjective clauses, when do you use *who* or *which*.
 - V. She was polite, and of fine appearance.
7. Put into plain English:
- I. Was launched into eternity.
 - II. Disastrous conflagration.
 - III. Commenced his rejoinder.
 - IV. Have a sufficient quantity.
 - V. May I have the inexpressible delight of tripping the light fantastic with you?
8. I. What is the use of figures of speech?
- II. Give an example of Simile.
 - III. Of Personification.
 - IV. Of Metaphor.
 - V. Rule for Metaphor.
9. Reason for correcting:
- I. It was neither him nor her who did.
 - II. If I was him I would accept.
 - III. It was either her sister or her which I heard of.
 - IV. Was you living there then?
 - V. We went in the house.
10. I. Give three of the general principles of sentence making, taken from your blank-books.
- II. Give two directions about paragraphs.
 - III. "Let the selfish boast of the Spartan women become the grand chorus of mankind, that they have never seen the smoke of the enemy's camp."
 - IV. What kind of an element is the one commencing with *that* and ending with *camp*, and what does it modify?
 - V. Parse only the italicised words.
 - "Were he ten times the villain that he is, he would still supportors."
 - I. Parse only the italicised words.
 - II. Write two correct sentences using *each other* in the first, and *one another* in the second.
 - I. Construct sentences using *but* as different parts of speech.
 - II. A sentence using *not only—but also*, and give the rule for the position of those words.
 - I. A sentence containing the nominative absolute.
 - II. Sentence using *as* as different parts of speech.
 - I. Write a sentence containing corresponsives of equality, and parse the corresponsives.
 - II. Two sentences containing corresponsives of inequality—the corresponsives having nothing in common.
6. "I care not, *Fortune*, what you me deny."
- Parse the italicised words.
7. I. Give an example of the Present Infinitive.
- II. Give an example of the Perfect Infinitive.
- III. When do you use the Perfect Infinitive?
8. Give five sentences using a different relative adverb in each. Give the adverb and each equivalent in each sentence.
9. SENTENCES.
- I. "He did it." Change into a complex emphatic sentence.
- II. State the three uses of the noun-clause in the complex sentence, and give a sentence to illustrate each.
- III. Make a complex sentence out of these two statements:
- "Riches are good." "Wisdom is better."
- IV. Make a list of the co-ordinate conjunctions.
- V. "The swimmer became exhausted, and was drowned." Change first into a complex, and then into a simple sentence.
10. PUNCTUATION.
- I. State three rules for the use of the comma.
 - II. Rule for marking off adverbial clauses.
 - III. With adjective phrases, when do you mark them off with a comma, and when not.
 - IV. When is the noun-clause marked off by a comma?
 - V. Rule for the semicolon in the compound sentence?
- GEOGRAPHY.
- [Twenty-five questions; Two credits each. 50 credits.]
- I. OUR COUNTRY.
1. Three great physical divisions.
 2. Five chief rivers.
 3. Six bays commercially important.
 4. Four capes noted in navigation.
 5. Six chief seaport cities.
 6. Ten largest cities in order of population.
 7. Three leading States—their rank (*a*) area; (*b*) population.
 8. Three States ranking highest in (*a*) manufactures; (*b*) mining.
- II. THE CONTINENTS.
9. Contrast in (*a*) shape; (*b*) size.
 10. What part of each is made up of (*a*) plains? (*b*) plateaus?
 11. Native domestic animals of each world?
 12. Indigenous products of each world?
 13. Contrast in (*a*) population; (*b*) race.
 14. Name the eight chief cities of the Old World.
 15. Contrast the two worlds in (*a*) moisture; (*b*) life.
 16. Name and height of the highest mountain peak in (*a*) the New World; (*b*) the Old World.
 17. Three chief plateaus in (*a*) the Old World; (*b*) the New World.
 18. Five chief ocean currents.
 19. The chief seas of (*a*) the Old World, (*b*) the New World.
 20. Five largest islands of (*a*) the Old World; (*b*) the New World.
 21. Population of (*a*) Asia; (*b*) Africa; (*c*) Europe; (*d*) North America.
 22. Four islands having the largest population, with the approximate population of each.
 23. Population of (*a*) Chinese Empire; (*b*) British America; (*c*) Russian Empire; (*d*) United States.

24. Five chief cities of the globe, with the population of each.

25. Three chief cities of Africa.

[*Extra credits.—Five questions. One credit each.*]

1. Estimate population by races.—I. Caucasian. II. Mongolians. III. African.

2. Vegetable Products; leading countries in order of rank: I. Cotton. II. Coffee. III. Silk.

3. Vegetable Products; leading countries in order of rank: I. Wheat. II. Rice. III. Flax.

4. Mineral Products; leading countries in order of rank: I. Iron and Coal. II. Gold. III. Silver.

5. Estimated population by religions: I. Buddhists and Brahmins. II. Christians. III. Mohammedans.

1. (a) CURRENTS.

I. Causes and uses.

II. Name the five chief ones.

III. General direction.

(b) WINDS.

I. Causes and uses.

II. What are the "Trades?"

III. Where do the Return Trades blow?

2. DISTRIBUTION OF PLANTS.

I. Total number of species.

II. Why numerous in the tropics and sparse toward the poles?

III. What is red snow?

(b) ANIMALS.

I. How many species?

II. Animals of the Torrid Zone? Name 10.

III. Races and number of each.

3. (a) CRUST OF THE EARTH.

I. Two main classes of rocks?

II. Of what is chalk composed?

III. What of fossiliferous rocks?

(b) VOLCANOES.

I. What two classes?

II. Where are the great lines found?

III. Name five noted ones.

4. THE EARTH.

(a) I. Distance from the sun?

II. Three motions?

IV. Equatorial Diameter?

(b) I. The ecliptic?

II. Width of each zone?

III. What is a delta?

5. LAND AND WATER.

(a) I. Area of the globe?

II. What is about the centre of the land surface?

III. Area of Asia.

(b) I. Height of Mt. Blanc and Mt. Everest?

II. Laws of the rise of continents?

III. The five longest mountain chains?

ARITHMETIC.

Ask no questions. Do your work neatly. Write your answers in large figures on the right hand side of the page, and underline it with heavy double lines. Cover your work with a sheet of paper. No credits unless your answers are accurate.

I. [Ten questions. Five Credits each.]

1. Sold a house lot for \$5,000 and gained 35 per cent. of its cost; find the cost.

2. Sold a house and lot at a loss of \$162.50, thereby losing 2½ per cent.; find the cost price.

3. Bought apples at the rate of 5 for 4 cents, and sold them at the rate of 4 for 5 cents; find the per cent of gain.

4. Multiply 16 by $\frac{3}{4}$, express the work in Blank Book form, and write the explanation as required in the Blank Book.

5. Divide 60 by 4.5. Ditto, as above. [No credits whatever for the 4th and 5th, unless the method corresponds to the Blank Book analysis.]

6. John Doe bought of Richard Doe & Co., in San Francisco, May 11, 1877, the following articles: Make out his bill and receipt it. John Doe's memorandum is as follows: [Doe was a poor speller.]

125 lbs unions at $3\frac{1}{2}$ cents.

75 lbs turnups at $1\frac{1}{2}$ cents.

250 lbs pertaters at $2\frac{1}{4}$ cents.

150 lbs beats at $2\frac{1}{2}$ cents.

25 lbs straw berries at $9\frac{1}{2}$ cents.

4 doz. bernanners at 50 cents a doz.

12 lbs sparrow grass at 10 cents a lb,

4 doz. aigs at $37\frac{1}{2}$ cents a doz.

7. How many acres in a piece of land, 1,250 rods long and 840 rods wide?

8. How many square feet of surface, and cubic feet of air in a room 33 by $28\frac{1}{2}$ feet, and 16 feet high?

9. Change 300 feet to meters.

10. How many rods of fence will it take to inclose a square township?

II. [Five questions. Ten credits each.]

11. I. On the 15th of December, 1876, you hired of John Doe \$150.75 at 10 per cent. interest, payable on demand. Write the note in due form. [5 credits for note.]

II. What is due May 11, 1877?

12. Note for \$6,000, dated San Francisco, Jan. 12, 1877 payable in six months with interest at $1\frac{1}{4}$ percent a month. Discounted at the Bank of California, March 10, 1877, at $1\frac{1}{2}$ per cent.

13. If 1,500 copies of a book of 11 sheets, require 66 reams of paper, how much paper will be required for 5,000 copies of a book of 25 sheets, of the same size as the former?

14. "El Capitan," in the Yosemite Valley, is a cliff with a perpendicular face 3,000 feet high; find the length of a wire stretched from the summit to a distance of 2,000 feet from the base?

15. Find the square feet of surface on the stump of a "big tree," 110 feet in circumference?

BOOK NOTICES.

SHORTHAND FOR DULL SCHOLARS, in six easy lessons. Or Stenography and Phonography compared, and the best of both systems adopted, improved and simplified. By George G. W. Morgan, 638 Minna Street, San Francisco, Cal. Price, 50 cents.

This little book, or rather pamphlet, is the most practical thing we have yet seen on the subject of short-hand. From a cursory perusal of the work, we judge the method, if not entirely original, to be, at least, new enough to entitle it to attention. Mr. Morgan is a writer of considerable ability; his poems have attracted attention, have a large circulation and have met with public favor. We are informed, he has used this method of short-hand writing successfully and to great advantage. Teachers and those who wish to condense their compositions, will find it to their advantage to examine this work.

BOYS' AND GIRLS' DEPARTMENT.

Edited by Mrs. L. A. K. Clappe.

A Dialogue.

[Adapted from "Dombey and Son."]

CHARACTERS:—*Florence Dombey*—*Susan Nipper*, maid to *Florence*. *Polly Richards*, nurse to little *Paul Dombey*, the latter represented by a large doll. *Mrs. Chick*, aunt to the children. *Miss Fox*, a maiden lady of uncertain age, an humble friend of the family. *Towlinson*, a footman.

COSTUMES:—*Florence Dombey*—a low-necked, short-sleeved, black dress, and a broad-brimmed, black straw hat. Hair in long curls.

NURSE.—Black dress, large white apron, and a motherly cap.

SUSAN NIPPER.—Black dress, coquettish little apron, and fly-away cap.

MRS. CHICK.—Elegant black silk, chantilly lace, costly jewels, etc.

MISS FOX.—Gaudy dress of the fashion of forty years ago; a pink bonnet with "little, weedy flowers, and strange grasses;" a big, brassy locket, and a "bag that went off like a pocket pistol" when she shut it.

The characters should resemble as nearly as possible their descriptions in the novel.

SCENE FIRST:—A nursery with cradle, couch, etc. *Mrs. Richards* seated with little *Paul* on her lap.

[Enter *Florence* with hat in hand.]

Florence. [Pointing to the baby]—Is that my brother?

Nurse. [Aside]—It's Miss Florence come home from her aunt's; yes, my pretty, come and kiss him.

Flo. [Not heeding the request]—What have you done with my mamma?

Nurse.—Lord bless the little creature? What a sad question! I done? Nothing, Miss.

Flo.—What have they done with my mamma, then?

Nurse. [Aside]—I never, saw such a melting thing in all my life! Come nearer here, my dear Miss! Dont be afraid of me.

Flo.—I am not afraid of you. [Draw-

ing nearer]. But I want to know what they have done with my mamma.

Nurse.—My darling, you wear that pretty black frock in remembrance of your mamma.

Flo. [Weeping.]—I can remember my mamma in any frock.

Nurse.—But people put on black to remember people when they're gone.

Flo.—Where gone?

Nurse.—Come and sit down by me, and I will tell you a story.

[*Florence*, lays down her hat and sits on a stool at the nurse's feet.]

Nurse.—Once upon a time, there was a very good lady, and her little daughter dearly loved her. [*Florence* drops her head on the nurse's knees and sobs]. But when God thought it right that it should be so, this good lady was taken sick and died. [*Flo* sobs again]. She was never seen on earth again, and was buried in the ground where the trees grow.

Flo.—In the cold ground!

Nurse.—No, no, no! the warm ground, where ugly seeds turn into beautiful flowers, and grass and corn; and good people turn into bright angels and fly away to heaven!

Flo.—[Raising her head]. Oh, dear nurse is that indeed true?

Nurse.—Yes, dear; and when this lady died, wherever they took her, or wherever they put her, she went to God! and she prayed to Him, this lady did, to teach her little daughter that she was happy there, and loved her still!

Flo.—[Springing up and clasping the nurse round the neck.] It was my mamma! my own mamma! O, I know it was!

Nurse.—[Weeping, herself.] Yes, yes, yes, dear, it was she, though I am but a poor, ignorant woman, and cannot tell it right!

[Enter *Susan Nipper*.]

Susan.—Ah well, Miss Floy, and won't

your pa be angry, neither! when it was 'tickerlerly given out that you wasn't to go and worrit the wet nurse?

Nurse.—She don't worry me, I am very fond of children—

Susan.—O, but begging your pardon, Mrs. Richards, that don't matter, you know. I am very fond of periwinkles, Mrs. Richards, but it doesn't follow that I'm to have them for my tea. Does it now?

Nurse.—Of course not, Susan, dear—

Susan.—Thank you, Mrs. Richards, for agreeing with me; but remember, if you please, that Miss Floy's under my charge, and Master Paul's under your'n—

Nurse.—Certainly, but still we needn't quarrel, I think—

Susan.—No, indeed, Mrs. Richards; not at all—I don't wish it, I'm sure. We needn't stand upon that footing; Miss Floy being a permanency, Master Paul temporary—

Nurse.—Miss Florence has just come, hasn't she?

Susan.—Yes, Mrs. Richards, just come home; and here Miss Floy, before you've been in the house a quarter of an hour, you go a smearing your wet face against the mourning Mrs. Richards is wearing for your ma!

Nurse.—She'll be quite happy, now she has come home again, and will be so pleased to see her dear papa to-night.

Susan.—Lork, Mrs. Richard! don't you make me sick—see her dear papa, indeed! I should like to see her do it!

Nurse.—Why, Susan, what do you mean? Won't she, then?

Susan.—Lork, Mrs. Richards, no; her papa's a deal too much wrapped up in somebody else, and before there was a somebody else to be wrapped up in, she never was a favorite. Girls are throw away in this house, I assure you, Mrs. Richards—

Nurse.—You surprise me. Hasn't Mr. Domby seen her since—

Susan.—No, not once since, and he hadn't hardly set eyes upon her for months and months before that, and I don't think he'd have known her for his own child if he had met her in the streets, or would know her for his own child if he was to meet her in the streets to-morrow, Mrs. Richards. As to me [Laughs bitterly] I doubt if he's aware of my existence.

Nurse.—[Pityingly.] Poor little darling!

Susan.—Oh! there's a Tartar within a

hundred miles of where we're sitting, Mrs. Richards—present company always excepted, too. I wish you good morning, Mrs. Richards. But, goodness! gracious! me! Miss Floy, come along—[Wrenching her violently from the nurse]—and don't go hanging back like a naughty, wicked child that judgment is no example to!

Flo.—[Breaking away from Susan and kissing the nurse.] Good-bye! God bless you! I shall come to see you again soon, and you'll come to see me. Susan will let us. Won't you, Susan?

Susan.—It ain't right of you to ask it Miss Floy, for you know I can't refuse you. But Mrs. Richards and me will see what can be done if Mrs. Richards likes. I may wish to take a voyage to Chiney, Mrs. Richards, but I mayn't know how to leave the London docks—

Nurse.—That is very true, Susan.

Susau.—This house ain't so exactly ringing with money-making, that one need not be lonelier than one must be. Your Foxes and your Chickses may draw out my two front double teeth, Mrs. Richards' but that's no reason why I need offer 'em the whole set.

Nurse.—Certainly not.

Susan.—So I'm agreeable to live friendly, Mrs. Richards, if the means can be planned out without going openly against orders. But, my stars! Miss Floy, you haven't got your things off yet, you naughty child!

[Draws Florence away by the arm.]

SCENE II :—*The same as at first. Susan laying the table for supper in the noisiest manner possible.*

Nurse.—Whatever is the matter, Susan, dear, have a care, or you'll break the cups I'm thinking—

Susan.—And welcome too, if they was only the heads of them Foxes and Chickses!

Nurse.—Why, what have they done now?

Susan.—Lork, Mrs. Richards, didn't you know them two griffins was going to take tea here? There they come.

[Enter Mrs. Chick and Miss Fox. They speak condescendingly to the nurses. Richards curtseys, Susan turns up her nose. During the whole of the following scene, when they are not looking, she shakes her fist at them, makes faces, runs out her tongue, etc. The ladies seat themselves at the tea table.]

Miss Fox.—[Stirring her tea affectedly and

looking at Florence.] How soundly that child sleeps!

Mrs. Chick.—Why, my dear, you know she takes a great deal of exercise playing about, little soul, so much—

Miss Fox.—She's a curious child.

Mrs. Chick.—My dear, her mother all over.

Miss Fox.—Indeed! Ah! dear me! dear me!

Mrs. Chick.—Florence will never, never, never, be a Dombey! not if she lives to be a thousand years old!

Miss Fox.—Ah! what a pity! Her poor papa! what a sad trial for him!

Mrs. Chick.—I quite fret and worry myself about her—I really don't see what is to become of her when she grows older, or what position she is to take.... She don't gain on her papa in the least. How can one expect she should, when she is so very unlike a Dombey!

Miss Fox.—No one could be so unreasonable, I am sure—

Mrs. Chick.—And the child, you see, has poor, dear Fanny's nature. She'll never make an effort in after life, I'll venture to say. Never! never! She'll never wind and twine herself round her papa's heart like—like—

Miss Fox.—Like the ivy?

Mrs. Chick.—Thank you, my dear. Like the ivy. She'll never glide and nestle in the bosom of her papa's affections like the—the—

Miss Fox.—Startled fawn? do you mean?

Mrs. Chick.—You are very kind, Lavinia. Like the startled fawn. Never! Poor Fanny! Yet how I loved her! [Sobs.]

Miss Fox.—You must not distress yourself, my love. Now, really, you have too much feeling!

Mrs. Chick.—[Sobbing and shaking her head.] We have all our faults—I dare say we have—I never was blind to hers—I never said I was. Yes, how I loved her! [The nurse suddenly sees Florence sitting erect in her crib and weeping, she goes towards her.]

Flo.—Oh! dear nurse, let me lie by my brother! [Sobs.]

Nurse.—Why, my pet—

Flo.—Oh! I think he loves me! [Still weeping.] Let me lie by him. Pray, pray, pray do!

Mrs. Chick.—Now go to sleep like a darling, Florence. You are troublesome.

Flo.—[Not heeding her aunt.] I'll not wake him. Indeed, I will not. I will only touch him with my hand and go to sleep. Oh! please let me be by my brother tonight, for I believe he's fond of me!

[*Nurse takes the baby and lays it in her arms.*]

Miss Fox.—Poor little thing! She has been dreaming, I dare say.

[*Miss Fox rings the bell—Towlinson enters.*]

Miss Fox.—Towlinson, will you please order a cab?

Tow.—With pleasure, Miss. [Turns to go.]

Miss Fox.—Have the goodness, if you please, Towlinson, first of all, to carry out a pen and ink and take his number legibly.

Tow.—Yes, Miss. [Turns to go.]

Miss Fox.—Then, if you please, Towlinson, have the goodness to turn the cushion; which [*to Miss Chick*] is generally damp, my dear—

Tow.—Certainly, Miss. [Turns to go.]

Miss Fox.—I will trouble you also, if you please, Towlinson, with this card and this shilling. He's to drive to the card, and is to understand that he will not on any account have more than the shilling.

Tow.—No, Miss. [Turns to go.]

Miss Fox.—And—I'm sorry to give you so much trouble, Towlinson.

Tow.—Not at all, Miss—

Miss Fox.—Mention to the man, then, if you please, Towlinson, that the lady's uncle is a MAGISTRATE! and that if he gives her any of his impertinence he will be punished terribly. You can pretend to say that, if you please, Towlinson, in a friendly way, and because you know it was done to another man who died.

Tow.—Certainly, Miss. [Tow goes out.]

Miss Fox.—[Kissing Paul.] And now, good-night, to my sweet, sweet, sweet godson—and, Louisa, my dear friend, promise me to take a little something warm before you go to bed, and not to distress yourself.

[*Exit Miss F.*]

Mrs. Chick.—I think that I will retire also, as it is growing late. Good-night, Mrs. Richards, [*nurse curtseys*] take care of little Paul. Good-night, Susan. [*Exit Mrs. Chick.*]

Susan.—You might keep me in a strait-waistcoat for six weeks, and when I got it off I'd only be more aggravated. Who ever heard the like of them two Griffins, Mrs. Richards?

Mrs. Richards.—And then to talk of her having been dreaming, poor dear!

Susan.—Oh! you beauties! [Shaking fist at the door.] Never be a Dombey, won't she? It's to be hoped she won't. We don't want any more such, one's enough.

Nurse.—Don't wake the children, Susan, dear.

Susan.—I'm very much beholden to you, Mrs. Richards, and really feel it as a honor to receive your commands, being a black slave and a mulatter. If there's any other orders as you can give me, pray mention 'em—

Nurse.—Orders? Nonsense, Susan—

Susan.—Oh! bless your heart, Mrs. Richards, temporaries always orders permanencies here, didn't you know that? Why, wherever was you born, Mrs. Richards? But wherever you was born, Mrs. Richards, and whenever, and however, [which is best known to yourself,] you may bear in mind, please, that it's one thing to give orders and quite another thing to take 'em. A person may tell a person to dive off a bridge headforemost into five and forty feet of water, Mrs. Richards, but a person may be very far from diving—

Nurse.—There now, you're angry because you're a good little thing, and fond of Miss Florence,—and yes, you turn round on me because there's nobody else.

Susan.—It's very easy for some persons to keep their tempers when *their* child's made as much of as a prince, and is petted and patted till it wishes its friends further; but when a sweet, young, pretty innocent [*sobs*] that never ought to have a cross word spoken to it or of it, is run down, the case is different, indeed—[suddenly changing from tears to temper,] Why, goodness gracious me, Miss Floy, you naughty, simple child! if you don't shut your eyes this minute, I'll call on them hobgoblins that lives in the cock-loft to come and eat you up alive!

[Written for THE PACIFIC SCHOOL AND HOME JOURNAL.]

The Mouse who went to School.

BY ELLA M. SEXTON.

Oh mamma, I went to the pantry and I heard the queerest sound,
Though dolly and I were all alone; there wasn't a soul around;
A little squeaking and squealing just under the pantry floor,

I thought at first of fairies, but you said there were no more.

I wasn't the least bit frightened, but into a crack I peeped
And saw the funniest little pink balls of baby mice, asleep.
But Mr. and Mrs. Mousie were squeaking away so fast
I didn't think they were talking, till I caught the words at last.

Don't say it was wrong to listen, you'd have done the same yourself;
Don't laugh! Now mamma, it's really true! I crept down under the shelf
And heard the strangest story—I laughed till I almost cried—
For Mr. Mousie had been to school, my very own school besides.

I thought it was very handy to go to school next door,
But Mr. Mousie, it seems, had found a shorter way before,
And got into the school-room, and the silly girls all cried!
The big girls too, in the first grade; I thought they had more pride.

Just hear what he told Mrs. Mousie—I remember every word—
“ You know, my dear, the garden, I listened and never heard
A dog or cat so cruel, so through the fence I slipped.
And into an open door beyond and up the stairs I tripped.

“ Till after a weary journey, I crept into a hall
That was larger than the pantry, and almost twice as tall.
It was full of dreadful giants, and the walls were black and high;
But I was brave, and well they knew a terrible mouse was I.

“ For the biggest of all the giants, and the littlest, and all the rest
Began to scream when they saw me, and screamed till I thought it best
To pity them and leave them, they turned so very white
And twisted their jaws, and ran, and cried in such a horrible fright.

“ Now, dear, you know we tremble, and squeak if a cat comes near,
But don't you think these giants had much less cause for fear?
I tired of their screaming and left them, I expect they're screaming yet;
A school they call it! A pretty school that a mouse could so upset.”

Then mamma, they got to squeaking so very, very fast,
Scolding I guess, that I couldn't tell a single word at last.—
Indeed, I wasn't dreaming, I wasn't asleep as you think,
It's a really truly story, I only slept one wink.

The Story of the Sword.

The story of the sword, my lad? This keen
and trusty blade
Was hallowed by St. Louis' hand, who led the
last crusade;
Twas made of true Damascus steel by one of
Arab blood,
Who gazed upon the murderous thing, and then
pronounced it good.

Whence come I by this ancient blade? The tale
is shortly told:
I stood beside my door one day; a monk, weak-
limbed and old,
Came tottering past. Upon my step this heavy
sword he laid;
"My strength is well-nigh spent," he cried,
"Ho! armorer guard this blade."

"I bore it once through Palestine; I swore this
very sword
Should help to win the sepulchre of our most
Holy Lord;
But once, when many a paynim heart had fallen
'neath its blows,
The while I slept at dead of night, a wondrous
vision rose.

I fancied that the hands were pierced; I thought
within His side
I yet could see the healed wound, whence flowed
the crimson tide.
A voice cried out, 'Thou murderous monk, dost
think to serve thy Lord?
Hast thou not heard, 'Who takes the sword, shall
perish by the sword?'''

Then all was still. In dread I rose; upon my
side 'twas laid.
I could not leave the ancient sword—it was St.
Louis' blade;
I bore it on, and armorer, I leave it in your care:
Just yonder rise gray convent walls, and I shall
perish there.

Take thou the sword, and guard it well, and
keep its lustre bright;
It yet may serve in other hands, the cause of truth
and right;
But not in hands like mine, to peace and holy
calling vowed;
For this my crime was I rebuked, my haughty
spirit bowed."

And so I keep the sword in trust; but when some
valiant youth,
Whose hand is skilled in use of arms, whose
heart is sworn to truth,
Hailed victor at the tournament, and on the bat-
tle-field,
Shall ask it of me, to his care, this relic I will
yield.

Thou com'st to ask me for the hand of this fair-
favored maid—
Go show thyself the worthiest to wear this trusty
blade;

Then come to me, a manly knight, by deeds of
valor tried,
And from the armorer's keeping, claim at once
the sword and bride.

—*Harper's Weekly.*

Child and Bird.

CHILD.

Birdie, Birdie, will you pet?
Summer is far, and far away yet
You'll have silken quilts and a velvet bed,
And a pillow of satin for your head.

BIRD.

I had rather sleep in the ivy wall,
No rain comes through though I hear it fall;
The sun peeps in at dawn of day,
And I sing, and wing, away, away.

CHILD.

O, Birdie, Birdie, will you pet?
Diamond stones, and amber, and jet,
We'll string on a necklace fair and fine,
To please this pretty bird of mine.

BIRD.

O, thanks for diamond, thanks for jet;
But here is something daintier yet,
A feather necklace, round and round,
That I would not sell for a thousand pound.

CHILD.

O, Birdie, Birdie, wont you, pet?
We'll buy you a dish of silver fret;
A golden cup, and an ivory seat,
And carpets soft beneath your feet.

BIRD.

Can running water be drunk from gold?
Can a silver dish, the forest hold?
A rocking twig is the finest chair,
And the softest paths lie through the air;
Good-bye, good-bye to my lady fair.

A Tale of blighted Love.

Written for the PACIFIC SCHOOL AND HOME JOURNAL,

BY C. A. G.

[The author of the following poem, whom by virtue of his genius, we must claim as one of "our boys," will be greatly surprised to see himself in print. We hope the dear fellow will not be angry with us for appropriating his remarkably clever burlesque of an antique ballad. We confess that we were not magnanimous enough to let such a treasure trove slip from our fingers, but without leave or license, have published it, that others as well as ourselves, may enjoy its racy humor.

We will not mention the age of our young poet, lest our

ingeniously illegible penmanship should add two years to it, as happened in the case of little Georgia, (please be careful of the final *a*, Mr. Printer!) who was somewhat surprised to find herself masquerading in print as a mature maiden of fourteen, instead, as is the fact, a child scarcely out of her teens!]

The following lines were suggested by an epitaph found in a churchyard in Banffshire, Scotland, upon which was engraven the date, Oct. 12, 1706, and

SACRED TO THE MEMORY

Of Lord Carnavon, of Castile,
And Lady Hastile, of St. Garther;
He was slain by the leddy's shoon.
And she, by an angry father!

Lord Carnavon, of gay Castile, had come from his home afar,
To court the bonny Lady Hastile, and play on his light guitar.
He cared not for the billowy surge, nor for the breakers roar,
But steered his weather-beaten bark for Scotia's beauteous shore.

His trusty ship with pennon fair had weathered many a gale,
And recked not of the porpoises nor of the festive whale;
In ten days from his starting out, he landed on the beach,
Where howling sea-dogs bark and roar, and mermaids sing and screech.

He stayed not here for rest nor play, but straight to the woods he took,
To the bonny castle of Saint Garther, that stands by a winding brook.
He sat down under a casement high, that looked o'er the land afar,
And sang to the beautiful lady Hastile, as he played on his light guitar.

Then the Lady Hastile with her bonny eyes, from out of her casement peeped,
But when she beheld Lord Carnavon, she sat her down and weeped!
For a cruel father had Lady Hastile, who spake never without a frown,
And he asked her to marry for money, not love, the auld Laird of Castledoun.

But the Lady Hastile, with her tender heart, revolted at the thought,
For the Laird was *minus* a leg and an arm, and on his chin was a wart!
So she listened with joy to young Carnavon as he sang to his light guitar,
"Oh! fly with me, sweet Lady Hastile, to dear Hispania!"

Then out of the casement she put her head, and cooed in her tenderest tone,
"Oh! wait till I don my travelin' suit, and I'll follow thee soon, my own."
Then she dressed herself in a velvet skirt, and a German linen gown,
And put on a biased polanaise, trimmed round with eider-down.

Then she came again to her casement high, and sang to his listening ear,
"Stand from beneath, and my luggage catch,
Lord Carnavon, my dear."
First out of her casement she hastily threw, a gilded bird-cage small,
And next came a Saratoga trunk, and then an India shawl.

Basquieres in the fashion of Louis Quatorze, and hats a la Jardinière, Were flying out of that casement high, without the slightest care.
At last came a pair of the daintiest shoes, which struck him upon the head, And he threw up his arms in agony, and fell on the ground stone dead!

When her father heard the racket and noise, which she in her haste had made, He drew his sword and struck off her head, with its broad and shining blade.
So both of this hapless, loving pair, their precious lives did lose,
And 'twas owing to nothing else in the world, but the Laddie's new French shoes!

Correspondence.

DEAR MRS. EDITOR.—We girls, Sadie and I, (Sadie is my Kentucky cousin, on a visit to us from Mamma's old home in the East), had great fun in guessing out the blossoms of your ideal Flower Garden—Daisy, Floxglove, Lady's Slipper and Laurestine, were easy enough, but a family council had to be convened to name the others. Papa, he commanded a regiment in the late civil war, suggested, Bloody Warrior; mamma, her favorite, the Agrippina Rose; brother Ned, with a tender look at Sadie; Love Lies Bleeding; "Beau Brummel," he was caressing an incipient moustache at the time,—Narcissus; Sweet Aunt Fan, *un puce parrie*, a Wall Flower; and Tom, just home from Cambridge, Pansy (Pan's-eye?) Did we guess right, gracious lady? We shall look anxiously for the next number of the JOURNAL, for we hope that it will contain a fresh column of the marvelous productions of your marvelous garden. Don't forget now, if you wish to please ever so much your friend that loves you. FAIRY FERN-FLAKE.

Fairy, you are a perfect darling to write us such a sweet little letter. Please do it again, dear, and keep on doing it. Read on, and you will see that we have obeyed your closing request, by inserting another list of the precious seedlings, which are sown broadcast all over.

Our Garden in Spain.

Will some of our young friends tell us what will come up if we plant the following:

- | | |
|------------------------|-------------------------|
| 1. A country belle, | 2. A Pilgrim Father. |
| 3. A preaching monkey. | 4. Robert, the beggar. |
| 5. A bird's toes. | 6. A horse-whip. |
| 7. A box of carmine. | 8. Some coins. |
| 9. Pussy's teeth. | 10. A summer afternoon. |

[Contributed by Misses of the Denman school.]

Anagrams.

An actor. A novel. Two poets.

1. O, home! O, master!
2. Pen sinned.
3. Do both wine?
4. Go Pen, read all.

Enigmas on Names of Authors.

1. Change a letter and you have a season.
2. A cardinal point.
3. A dimension and a worthless person.
4. A German name, and a division of land.
5. An animal appendage, and a conjunction.
6. A part of the body indispensable to the circulation of the blood.
7. Aids.
8. A consonant, a grain, and an insect.
9. To purchase, and active exercise.
10. There is no place like them.
11. To separate, and a preposition.
12. A river.
13. The name of a very remote ancestor pluralized.
14. The opposite of subtract; a daughter.
15. Savage or fierce.
16. One who introduces.
17. The winner.
18. A partition, and that of which every pack of cards contains four.
19. Manufactured by an insect.
20. One who weaves.
21. Pits from which water is obtained.
22. A word of which building is the generic term.
23. A number; a consonant; and an offspring.
24. One who occupies a house belonging to another.
25. It crosses others of its kind in its wanderings.

26. Appendage of most ruminating animals.
27. Tempered iron.
28. To infuriate.
29. A strong man.
30. An officer.
31. An athletic exercise.
32. To hurry.
33. Sacerdotal.
34. An ache.

Enigmas on Titles of Books.

1. A dog's house and a man; William.
2. A cup: to purchase; Chinese boat; and to avoid.
3. A hotel; and a Greek goddess.
4. An animal appendage; a preposition; a number; incorporated towns.
5. An unmarried, or a married lady.
6. To murder a large number.
7. Morning; near; a cloth measure; a prefix; to go fast; morning.
8. Nameless.
9. Number; trees.
10. Merry; a musical note; to confuse.

Metagrams.

1. Complete, I am a fruit. Behead me, and I am part of the human body. Curtail me and I am a vegetable.
2. Complete, I am a precious stone. Behead me, and I am the negative of a foreign language. Curtail me, and I am an interjection.

SOME fifty years ago two gangs of workers in a Belgian coal-mine were at variance, and one party made a fire so as to smoke out the other. The coal in the mine became ignited, and it continues to burn to the present day. Efforts have been made again and again to extinguish the fire, but in vain. Mr. Richard M. Rothwell, editor of the Engineering and Mining Journal who mentions this case in a paper on fires in mines, cites a few similar instances from the history of mining in the United States, of seams of coal burning for several years—as the Summit Hill Mine, near Mauch Chunk; the Greenwood Company's mine, near Tamaqua; and others in Schuylkill, Carbon and adjoining counties of Pennsylvania. Some of these mines have been burning upwards of twenty years.

THE PACIFIC SCHOOL AND HOME JOURNAL.

VOL. I.

SAN FRANCISCO, JULY, 1877.

No. 5.

OBJECT METHOD OF TEACHING DOUBLE ENTRY BOOK-KEEPING. *

BY J. C. GILSON.

The great need of our schools, is not so much *better* text books, as it is better methods of teaching or presenting what is contained in those that we now have. Pupils are prone to avoid abstruse processes of reasoning, especially those which border on the abstract. Therefore, in order to make an impression, to awaken a proper interest, we must appeal to the perceptive and reflective faculties, vivify and reinvigorate their minds by striking and attractive illustrations. A child naturally hates to give analytical thought to a subject, though he may be willing to commit a page of sentences to memory; but give him com-

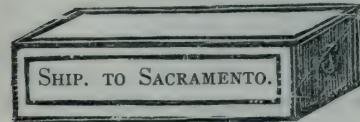
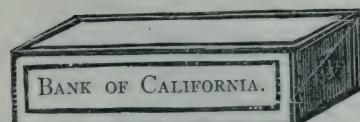
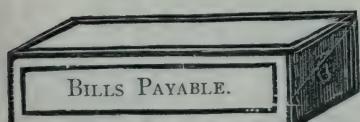
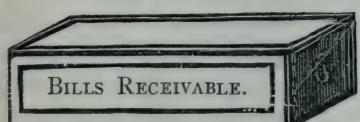
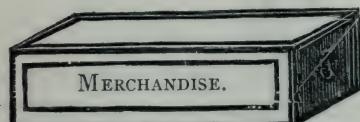
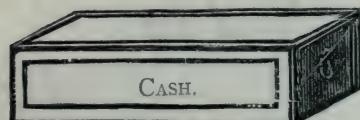
mon-place, practical illustrations even something *tangible* for the mind to *cling to*, something that he can see and comprehend, and reasoning becomes to him a pleasure.

The object of this article is two-fold: first, to enable teachers to more satisfactorily and successfully teach Double Entry Book-keeping; and secondly, to aid those who have never studied it to easily and pleasantly acquire a knowledge of the science, without an instructor. The author does not pretend to have any different mode of keeping books, or different form of entry than those now in use. The merit of the plan, is contained in the "objective logical method of teaching it. All who are conversant with Double Entry know that the *chief* difficulty consists in *journalizing*; and that being understood, the greater part of the remaining work is mechanical. The objective plan of presenting the subject attains its supremacy in just this thing *journalizing*.

Sufficient examples and illustrations will

be given to enable one to gain a general understanding of this mode of teaching the science.

ILLUSTRATIONS for journalizing. For the purpose of illustrating the debits and credits of the chief accounts, we are supposed to have several boxes for receiving Cash, Mdse., Bills Receivable, Bills Payable, &c.



Whatever money goes into the Cash box, Cash is debtor for, and whatever money is taken out, Cash is creditor for. So with Mdse. and Bills Receivable boxes, what goes in, they are debited for, and what goes out they are credited for.

Bills Payable box is supposed to contain a few blank sheets of paper; and whenever we give a note we take out a blank sheet and write our obligation on it. Then the note goes out of the box, and Bills Payable is credited. When we redeem a note we are supposed to tear our name off and throw the note into Bills Payable box. Then the note goes into the box and Bills Payable is debtor.

DEFINITIONS.

JOURNALIZING consists in preparing Day Book accounts in the Journal, for convenient entrance into the Ledger.

POSTING consists in transferring accounts from the Journal to their respective accounts in the Ledger.

CASH is a name given to money.

BILLS RECEIVABLE is a name applied to all written obligations in our possession, for which a specified sum is to be received.

BILLS PAYABLE is a name given to the written obligations of the firm, for which a specified sum is to be paid.

MERCHANTISE is a name given to all kinds of goods purchased for trading.

PERSONAL ACCOUNTS deal with persons.

STOCK is a term used for the proprietor's name, though in common language it relates to property.

LOGICAL DEDUCTIONS.

If Mr. Brown borrows from Smith \$25, who is debtor? Who creditor? How stated?

ANS.—Brown is debtor since the money goes *into* his pocket. Smith is creditor since it comes out of his pocket.

Stated:		Dr.		Cr.
Brown Dr.		\$25		
To Smith				\$25

How is Smith credited?

Ans.—By having the word *To* placed before his name.

EXPLANATION.

Accounts in Double Entry are kept, not only with persons but with things, including all kinds of property and causes. Accounts are kept with Cash, Merchandise, Bills Receivable, Bills Payable, &c., as if we were keeping accounts with Mr. Cash, Mr. Merchandise, &c., *i. e.* as if Cash, Merchandise, Bills Receivable, Bills Payable, &c., were our agents.

INTRODUCTORY EXPLANATIONS.

Book-keeping is a systematic yet convenient method of recording business transactions.

Book-keeping is of two kinds, Single Entry and Double Entry.

Double Entry is so named since each item is entered, either singly or in combination, under two accounts of the Ledger.

Double Entry is more satisfactory in its results than Single Entry, since it exhibits more plainly the state of one's business.

The chief books used in Double Entry are the Day Book, Journal, and Ledger.

DAY BOOK.

This book contains daily records of all business transactions. It is the only book allowed in court.

JOURNAL.

Accounts are taken from the Day Book, and the debits and credits having been decided on, are conveniently arranged in the Journal for posting to the Ledger. The Day Book and Journal are sometimes combined.

LEDGER.

This book exhibits accounts under their

appropriate titles, each account having a debit side and a credit side.

DIRECTIONS FOR ILLUSTRATING JOURNALIZING.—Procure six boxes (cigar boxes are most easily obtained) label them respectively Cash, Mdse., Bills Rec., Bills Pay., Bank of Cal., and Ship. to Sacramento, and treat them as persons or agents doing business for us. (Certainly we always debit agents for whatever property or money we place in their possession, and credit them for what we take away from them. And the difference between what we put into their possession, and what we take away, gives what is still held by them.) Prepare half a dozen little packages for Mdse. transactions, half a dozen or more slips of paper to be used as notes for Bills Rec. and Bills Pay. transactions, and a handful of silver for Cash transactions. After the pupils have written up the Day Book, call them out and give them a lesson in journalizing. Arrange your six boxes (lids being open) in front of your class. The boxes must contain nothing, except Bills Pay. box, which must have in it a few slips of blank paper.

Thus being prepared you are ready to begin the lesson. At first, take a set like the accompanying one, and, on starting out put a few pieces of silver into Mr. Cash's hands (Cash box) and ask your pupils, who is debtor and who is creditor. Their answers being correct, purchase Mdse. with Cash, putting Mdse. (little packages) into Mdse. box, and taking Cash out of Cash box. Ask who is debtor? who is creditor? how stated? Having received satisfactory answers, thus should you proceed as per accompanying set, putting into the various boxes and taking out of them Mdse., Cash, &c., in accordance with the requirements of the various transactions. By these vivid illustrations, you show before the pupils' eyes how your agents carry on your business.

DAY BOOK.
San Francisco, Jan., 1, 1877.

Page 1

<i>E. C. Merwin invests this day in business Cash</i>	2	4000
<i>Bought of C. E. King, for Cash,</i>		
300 yds English Cassimere @ \$1.50	450	
250 " Black Broadcloth @ 4.00	1000	
100 " Brown " @ 3.75	375	1825
<i>Bought of A. L. Bancroft & Co., for Cash,</i>		
8 reams Foolscap @ \$3.75	30	
6 " Letter @ 3.00	18	
10 " Note @ 2.75	27	50
6 M Light Buff Envelopes @ 3.00	18	
4 " White Ex. " @ 4.00	16	109 50
<i>Sold H. W. Crandall, for Cash,</i>	4	
175 yds English Cassimere @ \$2		350
<i>Sold J. A. Neal on his note @ 30 days,</i>	5	
4 reams Foolscap @ \$4.25	17	
2 M. L. B. Envelopes @ 3.50	7	24
<i>Bought of H. Cary, on our note @ 18 days,</i>	6	
360 yds Blk Doeskin @ \$1.25		450
<i>Sold D. F. Brown, on Acct.,</i>	7	
150 yds Blk Broadcloth @ \$5	750	
200 " " Doeskin @ 2	400	1150
<i>Shipped per C. P. R. R., and consigned to Munson & Co., Sacramento, to be sold on our acct. and risk,</i>	8	
50 yds Blk Broadcloth @ \$4.00	200	
100 " " Doeskin @ 1.25	125	325
<i>Sold A. Sargeant, for Cash,</i>	9	
5 reams Note @ \$3.00	15	
2 M. White Ex. Envelopes @ 4.50	9	24
<i>D. F. Brown paid Cash on Acct.,</i>	10	
<i>Paid Cash, for set of Books for store use</i>	11	800
<i>Deposited in Bank of Cal., Cash</i>	12	
<i>Sold A. O. Rix, on his note @ 40 days,</i>	13	
50 yds Brown Broadcloth @ \$4.25		212 50
<i>Paid our note of 7th inst., favor H. Cary in Cash</i>	14	
<i>Received advice from Munson & Co., Sacramento of sale of shipment made 9th inst. Net proceeds remitted in Cash</i>	15	450
<i>Paid Cash for store rent and clerk hire, one month</i>	16	400
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San Francisco, Jan. 1, 1877.

Page 1
Cr.

	<i>Dr.</i>	<i>To Stock</i>	Dr.	Cr.
<i>Cash</i>	<i>Dr.</i>	<i>To Stock</i>	4000	4000
		Cash goes into the Cash box at the beginning of business and is therefore made Dr. and the amount of Cash is placed in the Dr. column. The Cash coming out of C. E. Merwin's pocket, he is credited by the word <i>To</i> before his assumed name, Stock and the amount is placed in the credit column. Remember <i>Stock</i> is used for the proprietor's name. We could use proprietor's name, if we wished, instead of Stock.		
<i>Mdse.</i>	<i>Dr.</i>	<i>To Cash</i>	1825	1825
		Mdse. coming into our possession is thrown into Mdse. box; hence, Mdse. is Dr.; the money paid coming out of Cash box, Cash is credited by the word <i>To</i> before it.		
<i>Mdse.</i>	<i>Dr.</i>	<i>To Cash</i>	109 50	109 50
		Mdse. goes into the Mdse. box and is made Dr.; Cash coming out of Cash box is credited.		
<i>Cash</i>	<i>Dr.</i>	<i>To Mdse.</i>	350	350
		Cash being received, is thrown into Cash box and Cash is made Dr. Mdse. coming out of Mdse. box is credited.		
<i>Bills Rec.</i>	<i>Dr.</i>	<i>To Mdse.</i>	24	24
		The note received, being thrown into Bills Rec. box, Bills Rec. is made Dr. Mdse., coming out of Mdse. box, is credited.		
<i>Mdse.</i>	<i>Dr.</i>	<i>To Bills Pay.</i>	450	450
		Mdse. goes into Mdse. box, and is made Dr. We go to Bills Pay. box and taking out a blank slip of paper, write our obligation on it, when we say the note goes out of the box, and Bills Pay. is credited.		
<i>D. F. Brown</i>	<i>Dr.</i>	<i>To Mdse.</i>	1150	1150
		D. F. Brown, receiving the goods and paying nothing, is still holden, and is therefor made Dr. and Mdse. going out of Mdse. box, is credited.		
<i>Shipment to Sacramento</i>	<i>Dr.</i>	<i>To Mdse.</i>	325	325
		Mdse. being placed in Ship to Sac. box, Ship to Sac. is made Dr., and Mdse., coming out of Mdse box, is credited.		
<i>Cash</i>	<i>Dr.</i>	<i>To Mdse.</i>	24	24
		Cash, going into Cash box, is made Dr. and Mdse., going out of Mdse box, is credited.		
<i>Cash</i>	<i>Dr.</i>	<i>To D. F. Brown</i>	800	800
		Cash, going into Cash box, is made Dr. and D. F. Brown having paid part of the money he owed is credited.		
<i>Store Expense</i>	<i>Dr.</i>	<i>To Cash</i>	18	18
		Store Expense is made Dr. as though the Set of Books had been thrown into a box labeled Store Ex. and Cash going out of Cash box is credited.		
<i>Bank of Cal.</i>	<i>Dr.</i>	<i>To Cash</i>	1500	1500
		Bank of Cal. is made Dr. since we place a portion of money in its keeping, and Cash is credited since the money has been taken out of the Cash box.		

JOURNAL.

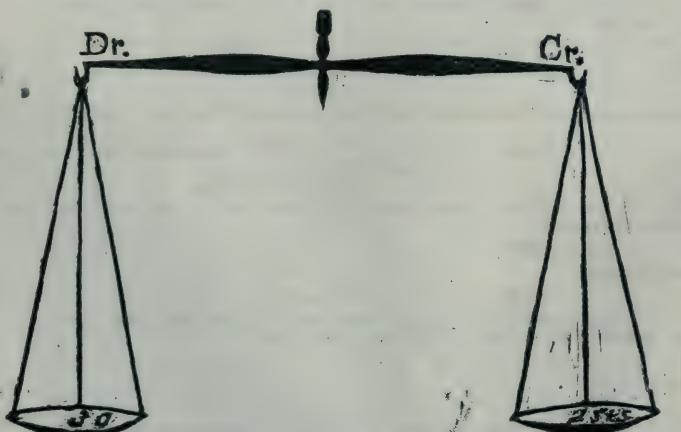
Page 2

San Francisco, Jan. 17, 1877.

	Dr.	Cr.
Amount Brought Forward		
Bills Rec.	Dr.	
To Mdse.		
On receiving Rix's note, we throw it into Bills Rec. box; hence, Bills Rec. is made Dr. and Mdse. going out of Mdse. box is credited.	10575 212 25	50 50 212 50
Bills Pay.	Dr.	
To Cash		
On receiving our note we tear off our name, and throw the note back into Bills Pay. box; hence, Bills Pay is made Dr. and Cash, going out of Cash box is credited.	450	450
Cash	Dr.	
To Ship. to Sacramento		
Cash, being thrown into Cash box, is made Dr., and the money having come from Ship to Sac., Ship to Sac. is credited.	400 100	400 100
Store Expense	Dr.	
To Cash		
Store Expense is made Dr. as though bills of Store Rent and Clerk Hire had been thrown into a box labeled Store Expense, and Cash going out of Cash box is credited.	31	11738
		11738

INVENTORY OF MDSE. REMAINING UNSOLD JAN. 31, 1877,

125	yds. English Cassimere	@ \$1.50	187	50
4	reams Foolscap	" 3.75	15	
6	" Letter	" 3.00	18	
5	" Note	" 2.75	13	75
4	M. L. B. Envelopes	" 3.00	12	
2	" White Ex. "	" 4.00	8	
50	yds. Blk. Broadcloth	" 4.00	200	
60	" " Doeskin	" 1.25	75	
50	" Brown Baoadcloth	" 3.75	187	50
			716	75



If there are 30 lbs. in the left hand scale pan, and only 25 pounds in the right hand pan, how can you make the scales exactly balance?

Ans.—By taking the difference between 30 and 25, and placing that difference, which is 5 lbs., in the right hand scale pan.

So it is with many of the accounts in the ledger, when we wish to balance them, we take the difference between the Dr. and Cr. sides, and place it on the smaller side.

The design of this article being, *not a full*

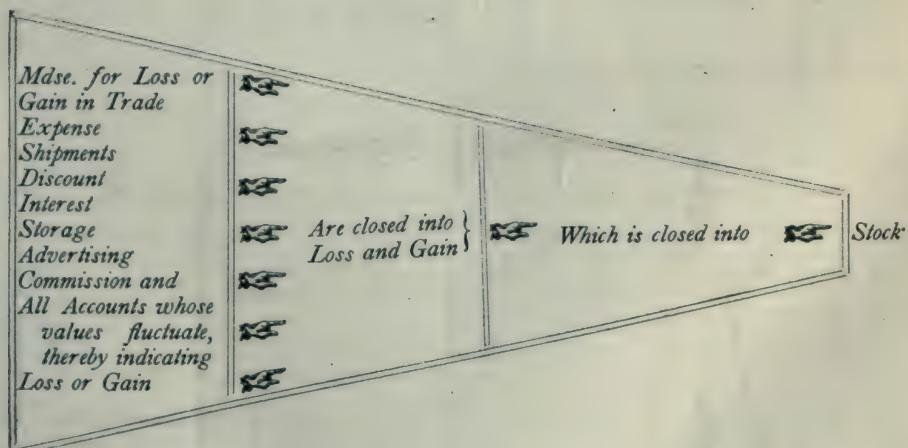
exposition of Double Entry Book-keeping, but merely to illustrate how the more difficult part may be made plain by the object method, a few words will be said about closing the ledger, (the trial balance be given) a formula for closing the ledger, and the closed ledger.

After taking the trial balance, you can go to the boxes and take out the Cash, Mdse., &c., and credit the respective accounts for what is taken out, or close the ledger in the ordinary way.

TRIAL BALANCE.

<i>Dr.</i>		<i>Cr.</i>
5574		Stock 4000
2384 50		Cash 4002 50
236 50		Mdse. 2085 50
450		Bills Rec. 450
1150		Bills Pay. 800
325		D. F. Brown 400
118		Ship. to Sacramento
2500		Store Expense
11738		Bank of Cal.
		Equality 11738

FORMULA FOR CLOSING LEDGER.



LEDGER.				Page 1 Cr.
Dr.		Stock		
1877 Jan. 31	To Balance	4374 75	1877 Jan. 1 " 31	By Cash Loss and Gain
		4374 75		
		4374 75		

Dr.		Cash		Cr.
1877 Jan. 1	To Stock	4000	1877 Jan. 2	By Mdse.
" 4	" Mdse.	350	" "	" "
" 10	" "	24	" 13	Store Ex.
" 12	" D. F. Brown	800	" 14	Bank of Cal.
" 28	" Ship. to Sacramento	400	" 25	Bills Pay.
			" 31	Store Ex.
			" "	Balance
		5574		5574
		5574		5574

Dr.		Mdse.		Cr.
1877 Jan. 2	To Cash	1825	1877 Jan. 4	By Cash
" "	" "	109 50	" 5	" Bills Rec.
" 7	" Bills Pay.	450	" 8	" D. F. Brown
" 31	" Loss and Gain	417 75	" 9	" Ship. to Sacramento
			" 10	" Cash
			" 17	" Bills Rec.
			" 31	Balance (Inventory).
		2802 25		2802 25
		2802 25		2802 25

Dr.		Bills Rec.		Cr.
1877 Jan. 5	To Mdse.	24	1877 Jan. 31	By Balance
" 17	" "	212 50		
		236 50		236 50

Dr.		Bills Pay.		Cr.
1877 Jan. 25	To Cash	450	1877 Jan. 7	By Mdse.

Dr.		D. F. Brown		Cr.
1877 Jan. 8	To Mdse.	1150	1877 Jan. 12 " 31	By Cash " Balance
		1150		
		1150		1150

Dr.		Ship. to Sacramento		Cr.
1877 Jan. 9	To Mdse.	325	1877 Jan. 28	By Cash
" 31	" Loss and Gain	75		
		400		400
		400		400

LEDGER.

Page 2

Dr.

Store Expense

Cr.

1877 Jan. 13	To Cash		18 100	1877 Jan. 31	By Loss and Gain		118
" 31	" "		118 = =				118 = =

Dr.

Bank of Cal.

Cr.

1877 Jan. 14	To Cash	1500	1877 Jan. 13	By Balance	1500
		= =			= =

Dr.

Loss and Gain

Cr.

1877 Jan. 31	To Store Ex. " Stock	118 374 75	1877 Jan. 31	By Mdse. " Ship. to Sacramento	417 75 75
" "		492 75 = =			492 75 = =

Dr.

Balance

Cr.

1877 Jan. 31	To Mdse. " Cash " Bills Rec. " D. F. Brown " Bank of Cal.	716 75 1571 50 236 50 350 1500	1877 Jan. 31	By Stock	4374 75
" "		4374 75 = =			4374 75 = =

BRUNELLESCHI AND THE EGG.

BY HARRIET S. TERRY.

The illustrated cover of the *National Teachers' Monthly*, doubtless, suggests to most of its readers the story of Columbus and the egg, but some of them may not be familiar with the fact, that a fellow countryman of the great discoverer, who stands high on the roll of fame, and who exerted a molding influence, as an architect, over Michael Angelo, proved by making an egg stand upright on its end, as Columbus did years afterwards, that "*Scientia est Potentia.*"

This story is related by Grimm, in the

opening chapter of his life of Michael Angelo.

Fillippo Brunelleschi was born in Florence, Italy, in 1377, and was a rival of Ghiberti. The two contended for the honor of making a bronze door for the church of San Giovanni, at Florence. The task was awarded to Ghiberti, who executed it so well that a similar order was again received by him, and of the finished work Michael Angelo said: "These doors are worthy to be the gates of paradise."

Defeated in his competition with Ghiberti, Brunelleschi went to Rome and studied ancient architecture. From the Pantheon he learned how the ancient dome was constructed, and when Ghiberti's gates had won for him fame, he returned to

Florence, to contend once more with his old rival.

The large cathedral at Florence was open and roofless; no one knew how to close it. Many suggestions were offered. Grimm says: "One proposed the erection of detached pillars to support the dome. Another wished to wall up the dome with pumice stone, on account of its lightness. Another proposed one single, mighty supporting pillar in the centre of the dome. The most extravagant proposal of all was to fill the entire church with earth, in order to obtain a temporary firm support for the dome. In order that the earth should be removed the more rapidly on the completion of the building, small pieces of silver were to be mixed with it; all hands would then most readily carry it away."

Brunelleschi proposed a free dome, which he could construct much more cheaply by the aid of scaffolding only. No one believed he could do this. Brunelleschi was not willing the rival architects, among whom was Ghiberti, should see his model, but he evinced his superior knowledge by requesting the assembly to place an egg on its own point and make it stand upright; and when the other architects failed to do this, he showed them how, by resorting to the method tested years afterwards by Columbus.

Brunelleschi's plan for the dome was accepted, but his jealous rival Ghiberti, then at the height of his fame, by some trickery, "succeeded in having the building of the dome assigned to him and Brunelleschi together. Brunelleschi was justly indignant and felt like giving up the work, but he was appeased and for seven years the rivals built jointly; then, at the beginning of the dome proper, Ghiberti's power failed. He had not studied the ancient domes as his rival had done; he had never seen Brunelleschi's model, and did not understand the principle on which the stones were to be placed. Now was Brune-

nelleschi's triumph. He feigned sickness, and embarrassed and mortified, Ghiberti showed his incompetence and yielded to his rival, who, in completing the task, gave a model to the great Michael Angelo for his dome of St. Peter's, at Rome."—*National Teachers' Monthly*.

MY INTRODUCTION TO THE PROFESSION.

BY WILLIAM CROWHURST.

An early life passed under difficulties and in poverty, prevented an early education. A roving desire led to the adoption of a sailor's life. Five years on the briny deep, during which time visits were made to the South Coast of England, Bay of Biscay, Madeira, Canary Islands, Brazil, Rio De La Plata, Straits of Le Maire and Magellan, Chile, various parts of Peru, Ecuador, United States of Columbia, Taboga, Vancouvers Islands, Queen Charlotte's Island, Russian America (Alaska), British Columbia, Washington Territory, Oregon and California, resulted in the conviction that, before the mast, could be discovered no opportunity to do good for one's self or for others.

Having agreed to serve as a sailor for fourteen years and having bound myself for that length of time, the only method of escape seemed to be desertion; hence, desertion was declared "*in order*."

The "Brother Jonathan," a steamer plying between Vancouvers Island and San Francisco, was expected at a certain time and her visit was to be the signal for action. Safely packed in a fireman's berth, we left for the Island of San Juan to transfer a company of U. S. troops, and steamed for Bellingham Bay. On leaving Puget Sound, we were safely stowed behind the boilers in a passage two and one-half feet wide, where we were nearer being roasted than ever before or since. On nearing Vancouvers, the Turkish Bath system was

adopted, and we were plunged into a cold water stream found in the bottom of the vessel under fire-plates—snow on the ground being knee deep. After five hours of roasting and five of freezing, but without either "Fizz" or "Freeze," we were introduced to an external drying process and an internal wetting process. The external was performed with the aid of fire, the internal with the aid of "fire—water." After a little burning within and burning without, we were introduced to the upper deck and there enjoyed ourself while Jonathan steamed to and from Portland, Oregon, turned Southward from the Columbia River, greeted the mighty Pacific, entered the Golden Gate, and finally landed us on the busy wharves of the "City of the Golden West."

How to live was the next consideration. Could gold be found in the streets? Hunger and thirst demanded satisfaction. Too proud to beg, the rotten apples and potatoes on the wharves, were cheerfully trimmed with a Sheffield Jack-knife and submitted to mastication, without the previous process of *calorification*. Iron boilers and wooden boxes were very welcome beds, and sheltered us admirably from the driving winter rains. The Bay was our wash-dish, and one pocket-handkerchief formed our stock of towels. Soap was an unexperienced luxury. After nearly four months of such living, we gladly commenced washing dishes and "doing chores" from four A. M., to ten P. M., for the enormous sum of *ten dollars* per month. Promotion came soon and we washed dishes from five A. M. to eight P. M., for twenty dollars per month; then we waited at table for twenty dollars, then for twenty-five dollars, then for fifty dollars. But we were now growing rich so rapidly, that we must accelerate our velocity in that direction by opening a whisky "Resort." But, strange to say, in that exceedingly respectable calling, we had *some* difficulties, hence concluded to

abandon it for our former avocation.

At about this time, the Church and Sunday School became better suited to our taste, and we were led into entirely different society. A newly-formed acquaintance desired our company in his bachelor home on one of the

"Thousands of green little islands,"

which are found in San Francisco Bay. Accepting the invitation and using his books, four months were consumed in earnest study. Ignorant of the first principles of education, not even knowing a noun from a verb, nor anything beyond the "four rules of arithmetic," and being without a guide or instructor, we commenced our course with the study of Logic, which, though difficult under the circumstances, proved a thorough mental disciplinarian. Having opened a small Sunday School with some classes in a barn, and under the trees, a *Deesstrict* Trustee asked us to open "school," "since there are only sixteen primary children in the District." We assured him that we were uneducated and incompetent; but he "can't see it." We "must teach." "Anybody can teach *our* school." We then explained that it was impossible to obtain a certificate, and, hence we could draw no public money. "If you can't pass, we'll pay you out of our own pockets." "I must ask one other condition: If I don't suit, no one must grumble." "All right." So I commenced teaching.

THOMAS D. GREGG was once a school teacher in Indianapolis. He got rich, but that was forty years ago, and after he had laid aside the fiddle. A copy of his will has come to light, in which, after devising some \$7,000 in small bequests, he makes the city of Indianapolis his residuary legatee "for the advancement and promotion of free schools in said city." It is presumed that the school directors have not yet heard of this legacy, as no movement has been made toward reconsidering the recent resolution for reduction of salaries.

BOTANY FOR TEACHER AND LEARNER.

BY HENRY N. BOLANDER.

THE BUTTERCUP.

I.

The large number of technical terms, used in descriptive botany, is generally re-

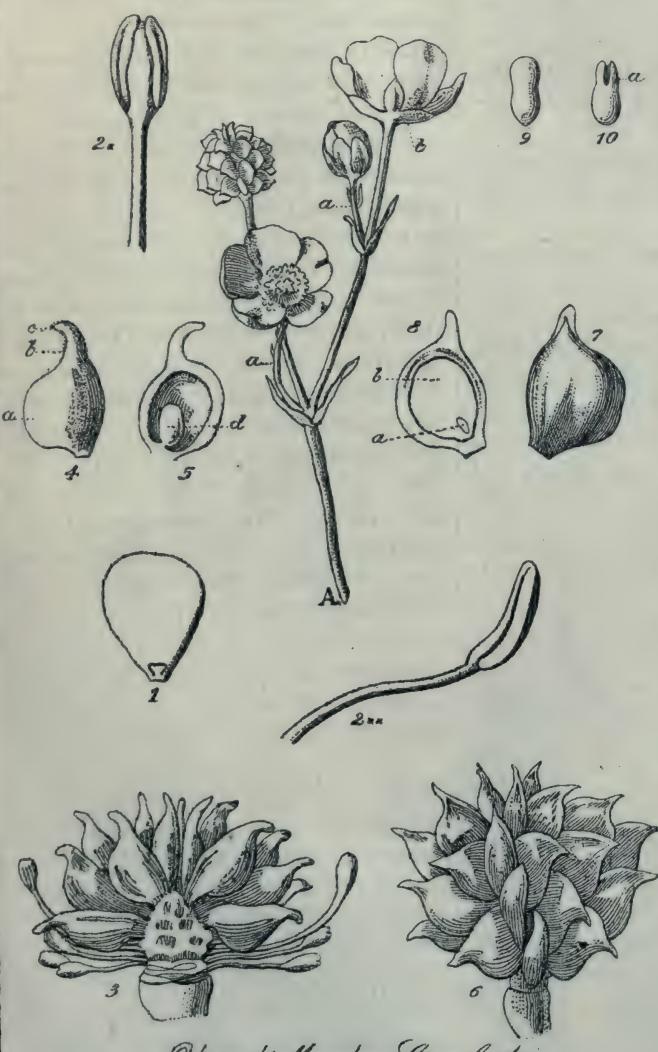
garded as a serious obstacle with many who desire to become familiar with plants. This so-called serious obstacle is, however, more apparent, than real; for in botany, as well as in any other study, technical terms should be introduced only when needed. In fact, all objections raised against the multiplicity of technical terms, would fall to the ground, if those who desire to study plants, would rely more upon the study of real specimens, than upon the information derived from books.

To avoid difficulties, at the first step, we shall take up a twig of the upper part of the stem of a Buttercup (plate I., fig. A); and pay no attention, at present, to the root, stem and leaves.

Regarding the stem, an axis to which all floral parts of a perfect flower are attached, we shall find, proceeding upward, one or two small leaves called *Bracts* (fig. A. a. a.). They are like other leaves, only very much smaller, almost reduced to mere scales. Proceeding further upward along the central axis, we meet, provided the flower is not too old, five small, greenish-yellow, hairy leaves (fig. A. b.) which are rather concave.

The Crowfoot Tribe.

I. 1.



Upright Meadow-Crowfoot.

and fall off, as soon as the flower it fully expanded. Each one of these five small leaves, regarded separately, is called a *Sepal*; and all five of them are called collectively the *Calyx*. A calyx, consisting of several distinct and separate leaves, is termed *Polysepalous*.

Next to the calyx, a little higher up, we find another whorl consisting of five (or more) bright, shining, yellow leaves, larger than those of the calyx, attached to the central axis. Each one of these yellow leaves is called a *Petal*; and all five of them are termed collectively the *Corolla*. A corolla, consisting of several distinct and separate leaves, is termed *Polypetalous*. These leaves stand erect, and form a little cup. At the inner side, closely at the base of each petal, is found a little scale, resembling a vest pocket, which exudes honey.

The calyx and the corolla protect the more tender parts of the flower. In many flowers, they close during a frosty or foggy night, and re-open when the sun shines brightly again.

Next above the corolla, we shall find, attached to the central axis, a large number of thread-like yellow bodies which are thicker at the top than at the bottom. They spread equally around the central axis, and are considerably shorter than the petals. These thread-like, yellow bodies are termed collectively the *Stamens* (fig. 3). Inspecting one of the stamens (fig. 2*, 2**) more closely, we observe that it consists of different parts, easily distinguished. The lower part or stem, looking like a thread, is termed the *Filament*; the upper thickened end is termed the *Anther*. Examining the anther, the most essential part of the stamen, we find it to consist here (fig. 2*, 2**) of two case-like bodies or cells; they are attached to the right and left of the upper part of the filament by a line along the whole length of each cell. At maturity, each case or cell will open by a line along the entire length of the cell to

discharge its contents, which consists of fine, round or oval grains, termed the *Pollen*. Next above the *stamens*, we find a considerable number of little green grains, at the very top of the central axis (fig. 3, 6). The part of the central axis to which these scales are attached, is termed the *Receptacle*. The receptacle is plainly seen in figure 3, where a portion of the small scales has been removed. The whole collection of these little, green scales is termed the *Pistil*; and each separate one of these little green scales is termed a *Carpel*. The carpels are too small to be readily seen without a magnifying glass. Detaching one or more from the receptacle, they will be found to be small bodies with a roundish bottom, gradually contracting into a kind of short, bent horn at the top. The lower roundish part (fig. 4, a) is termed the *Ovary*; the short, bent horn (fig. 4, 6), is termed the *Style*; and the very tip of the style (fig. 4, c), which is rather more shining and somewhat wider than the style itself, is termed the *Stigma*. It will be seen from this analysis of a carpel that it consists of ovary, style, and stigma. The carpels, in a mature state, might be mistaken for solid seeds; but a more close inspection will teach us the true nature of these bodies. The ovary of each carpel is hollow (fig. 5), and contains a young seed, termed an *Ovule* (fig. 5, d) or little egg. At maturity, the shell of the carpel becomes brown, dry, and hard (fig. 6). The shell, thus altered, is called the *Pericarp*.

Dividing the seed accurately from top to bottom, a solid mass of white flesh will be seen (fig. 8, b). This mass of white flesh, or rather substance, is termed *Albumen*. At the base of this mass of white flesh (fig. 8, a) is imbedded a very minute body, termed the *Embryo*. The embryo is the starting point of a new plant. This minute oval body has two differently organized extremities (fig. 9, 10). The upper extremity, divided into two lobes, is called the *Cotyle-*

dons (fig. 10, a), or seed-leaves; and the lower, undivided, is called *Radicle*. The radicle is the beginning of the root; and the cotyledons the beginning of the leaves and stem.

According to these explanations, the essential characters of the Crowfoot or Buttercup family (Banunculaceae) are as follows: Many stamens arising from beneath the carpels, and several carpels which are not joined together.

RECESS.—“ROLL OPEN FOR INSPECTION.”

Such a throng; such expectant faces around the Principal's desk! A few of the reliable and studious remain at their desks, apparently engrossed in study, that they may not seem to glory in self-righteousness. A few others promenade somewhat in the vicinity of the conscience-convicted groups that their happy indifference to Black Lists may not be unnoticed. The study of the faces surrounding the desk is interesting and curious. Here some anxiously scanning the page, turn away in silence, sadly or frowningly, in finding their worst fears more than realized. Others with difficulty suppress the chuckle over unexpected good fortune. One self-complacent young lady deigns to look on, and then with open-eyed wonder, exclaims: “The idea! Marking *me* as low as Mary N——!” and then her “tip-tilted” nose expresses volumes of crushing disdain. The girls chatter, make comparisons, and ignore the background of incipient manhood whose repressed curiosity is becoming too great for even their superior control. At last one of the younger breaks forth with, “I say, you girls have had that long enough, we fellows want a chance.” The roll is surrendered immediately, and then we are amazed to see the number of heads that can be accommodated over the small space; a glance is taken and the crowd soon dissolves and

re-arranges itself into groups. Two young ladies, seniors, in dignified grief, enter a mild protest; they do not whisper half as much as some of their neighbors, but somehow they are marked twice as low,—suppose it is because they do not try to be underhanded. And the resigned martyr expression comes to their aid. Would you like the self-reporting method? I ask. “Oh, no; that is too strong an invitation to deceive.” Would you prefer unrestrained communication? “No, that would destroy any attempt at study.” Would you think it best to have partial marking? “No, indeed.” It is sad, but the teacher is not omniscient, so what will you do? “It is best as it is, and we must gracefully submit.” Is that all? “No, it is not, Miss ——, we will henceforth do our part in lessening those direful figures.” And two sensible, pleasant girls go away to attend faithfully to duty. After all that Roll was a confession of human ignorance and weakness; dealing unjustly, through ignorance; giving encouragement to surreptitious communication, through weakness. One feels as if arraigned at a hundred bars, to gain prompt and full acquittal at but few. And yet we look into those loyal and loving eyes, and we know that our judges almost without exception will be lenient; and albeit sore at heart, will return true allegiance. When will the problem of school-government be solved? Can teachers, while in the flesh, hope to attain to a system, whose basis shall be unquestioned knowledge and justice?

A. A.

—*The Educational Weekly.*

MR. JOHN B. TREVOR, an affluent banker of Rochester, and a gentleman whose many liberal benefactions are widely and pleasantly remembered, has given \$25,000 to be divided equally between the Rochester University and the Rochester Theological Seminary. He had heretofore at various times given \$55,000 to the university and a large sum to the seminary.

ARE HIGH SCHOOLS ENTITLED TO STATE SUPPORT?

[From an Essay read before the State Teachers' Convention, Sept., 1876.]

BY A. L. MANN.

If this body of teachers were assembled in Italy or Indiana, it would be unnecessary to argue that the High schools are an indispensable portion of the common school system.

But we are on the Border Land of the enlightened world. With all that we have and are of which we can justly boast, there is yet much about us that is crude and provincial. Some of us can never forget that nothing but the strenuous efforts of a few friends of education, prevented the last Legislature from laying vandal hands upon the High schools of this State. A measure passed the Senate that would have destroyed the symmetry and impaired the usefulness of our free schools, and would have left us a system less complete than those of Minnesota or Nebraska.

A leading paper of this city favored the measure, and even took the grounds, that High schools should be abolished altogether.

While opinions here are in this state of flux, it seems to be our duty, when occasion offers, to present the arguments that have convinced the rest of the civilized world, that High schools may properly be supported by general taxation.

Germany, notwithstanding its strong central government, is fully committed to the idea, that the highest education should be made as free as possible to all. It is quite the fashion to ascribe her success, in the late war, to the superior education of her officers and soldiers. We need a highly educated people more than Germany. For with us the people are the rulers, and they must have more than a Grammar School education to deal with the problems

of government and finance, land, labor and capital which are often solved, and that very bunglingly, by popular vote. Besides, in a popular government experience shows, that class distinctions should oppose no barriers to the energy and intelligence of the most humble. Free education will save us from the horrors of Communism.

The laborer will not make war upon the government, if he sees his own son, or the son of his fellow workman, occupying an office of honor and profit, or pushing his way to the front ranks of the professions by the aid of free high schools and universities. It is conceded that it is right to tax the property of all for the purpose of elementary education, that voters may be intelligent and society relieved of the support of criminals and paupers. By parity of reasoning, if the grammar schools diminish petty larceny, the high schools are an antidote to official corruption. The great railroad robber and Supreme Court purchaser is much more dangerous and costly than the common burglar, and can in time be made to disappear by the diffusion of superior education.

Moreover, as has been well said by the Hon. Newton Bateman, the High schools are well worth their cost in their influence on the lower schools. They set a definite standard of excellence which must be reached for graduation from the grammar schools. They offer a goal to excite the ambition of both pupils and teachers. They indirectly increase the power for good of the elementary schools, by retaining in those schools, for two or three years longer, many pupils, who for various reasons never reach the High school. Another point made by Mr. Bateman, is that the High schools benefit the State greatly, though indirectly, by improving the quality and decreasing the cost of private schools, thus increasing the value and spreading the influence of general education. "How far should a State undertake to provide for the education of

its children at public cost?" continues Mr. Bateman, "Is the High school a proper and legitimate part of a general free school system? To these questions I answer, yes;—my judgment approving and my whole soul most joyously assenting thereto. I believe the very best and grandest thing a commonwealth can do for its children is to educate them,—that no other expenditures of public revenue yield such rich and sure returns, that the question for enlightened statesmanship is not how little but how much can be done for universal education. For every dollar given by the State or Nation to railroads, a hundred should be given to the common schools; for every acre of land bestowed in subsidy upon gigantic corporations, square miles should be granted to universities for the people. These remorseless oligarchies have filched from the nation its richest domain, and from the people and posterity their just inheritance, and yet they clamor for more. Meanwhile the little that was saved in better days, and consecrated to the education of the people, is often grudgingly allowed, the free universities and colleges are crippled for means, and a determined effort is made to force the States to call in their advanced free school outposts, close their High schools and colleges, and retire within the elementary lines of fifty years ago. Against all this, I protest in the name of the people, and of the millions of youth whom these men would remand to the beggarly rudiments of knowledge. The commonwealth needs through all its manifold interests and enterprises many, thousands of persons who have more than the ordinary rudiments of knowledge. The supply of persons such advanced culture through the private institutions of the country is not equal to the public need, and hence the State should interpose to supplement the work. The loss which nearly all the commonwealths of this republic sustains, because

so few of their young men are qualified to act as leaders in the discovery, development, and utilization of their wonderful natural resources, and in leading the people onward and upwards toward a worthier and grander civilization, is, I believe, incalculable."

It is claimed by high authority that intellectual culture does not imply moral improvement. But we insist that three years of High school discipline is both directly and indirectly moral training of the highest order. Indirectly, since all study by developing mental powers and widening the range of view, tends to convince the learner that morality is conformity to universal law, and in one aspect is merely enlightened self-interest. Directly, since it is impossible for a boy to pass through a well-conducted High School, without marking in his teachers and in himself, practicing obedience to law, forbearance, justice, honesty, and self-sacrifice for common good.

In this connection, notice two significant facts. (One). The increasing venality of public officials is attended with a marked disappearance of the scholar from politics. (Two.) Of all the hundreds of graduates of West Point, who have handled public moneys, but two or three have proved defaulters. Who does not believe that it would vastly improve the character of our City and State government if every officer were required to be a High School graduate? So that we, as teachers, can in no better way discharge the debt we owe to our profession and to our country, than by creating and extending a public sentiment, that will demand of every officer elected or appointed, a High School education or its equivalent.

It is sometimes said that only the children of the rich attend the High Schools. If this were true, it would be a complete reply to say, that the rich pay in school taxes for the education of other people's

children far more than it would cost them to educate their own in private schools. So that it is simply justice to pay a part of the money back to them in High School tuition; but it is not true. More than half of our pupils are from the middle and lower ranks of life. There may be found, sitting in the same class-room, the poor boy who sells newspapers on the street in the afternoon, and the son of the wealthy merchant, reciting the same lessons, subject to the same rules, and apparently with equal chances of intellectual success.

It is one of the proudest triumphs of the public school system, that its High schools are "good enough for the rich, and cheap enough for the poor." They deserve to be fostered by all who love their country, as the most efficient preservers of her foundation principles,—teaching day by day to rich and poor alike, the worth and dignity of human character, apart from the adventitious ornaments of wealth or station.

SEVEN METALS.

In the discovery of the metals men first asserted their mastery over nature; yet the discovery is still progressing. Before the fifteenth century only seven were positively known. They were each held sacred, among the ancients, to some ruling deity. Gold—indestructible, malleable, the richest in coloring, the most precious of decorations—was concentrated to Jupiter, or the Sun, and had already assumed the supremacy which it has never lost. It was coined into the heavy darics of Persia and the aureus of imperial Rome. It was used to gild temples and statues, was wrought into rich jewelry, and woven in delicate threads that enlivened the flowered stuffs of Babylon.

Gold mines and gold-bearing streams were found in Arabia, Syria, Greece, Italy, and Spain, and the pursuit of the precious

metal was carried on with various success by countless throngs of miners. The richest mines, at least in later ages, were those of Spain; and the enormous productiveness of the Spanish soil was slowly exhausted by the successive labors of the Carthaginians and the Romans. So successful was their industry, that but little gold or silver can now be found in a territory where the precious metal once lay scattered in boundless profusion on the surface of the earth.

Silver ranked next to gold, and was named from the soft light of the moon. The richest silver mines were those of Spain. It was wrought into cups, vases, lamps; adorned the helmets and shields of warriors; and formed the costly mirrors with which the Roman ladies shocked the austerity of Lactantius or Jerome. The beautiful silver coins of the Greek and Roman cities fill modern collections. Five other metals—iron, copper, mercury, lead, and tin—were employed by the ancients for various purposes; they made steel by a rude process, and brass without discovering zinc.

For many ages no addition was made to the sacred seven. Three thousand years passed away before it was suspected that the number could be increased,—a memorable example of the slowness of human apprehension. At length, in 1490, antimony was added to the metallic family; and not far off from the period of the discovery of a new world, the chemists were about to enter upon fresh fields of science, less boundless or inviting.

A second metal, bismuth, came in almost with the Reformation. Zinc, perhaps the most important of the new family, may have preceded the others; it was certainly described long before. It is, indeed, quite curious to notice how the bright metal had been constantly forcing itself upon the attention of careful observers, and had yet been wholly overlooked; had been

used by the ancients, in the form of an earth, to color copper into brass, and give it a shining surface like gold; was seen dropping from the furnaces of the Middle Ages, or melted in rich flakes from their walls.

Two magicians, or philosophers, at last detected the error of ages; and Albertus Magnus and Paracelsus, probably both discovered that zinc was as indestructible and as free from foreign substance as gold. It seemed a pure element. Paracelsus, who was fond of penetrating to the source of things, admits that he could not tell how the bright metal grew; nor in the height of their magic renown was it ever foreseen that the rare substance the sorcerers had discovered, would one day shed knowledge, in tongues of fire, from London to Japan.

Two centuries followed, during which no metallic substance was discovered. Paracelsus found no successor; Albertus, almost the first man of science in Europe, was remembered only as a sorcerer. It was not until 1733, that the vast field of metallic discovery began to open upon man. Two valuable and well-known metals—platinum and nickel—among several others, first appeared about the middle of the eighteenth century. The number of the metals now rapidly enlarged; galvanism lent its aid to dissolve the hardest earths; and at length, in the opening of the nineteenth century, a cluster of brilliant discoveries aroused the curiosity of science.

Each eminent philosopher seemed to produce new metals. Berzelius discovered three; Davy, the Paracelsus of his age, is the scientific parent of five—potassium, sodium, barium, strontium, calcium. The numbers advanced, until already more than fifty metals, of various importance, have been given to the arts. The experiments in light have added cæsium and rubidium; and no limit can now be fixed for the metallic family, which for so many ages embraced only seven members, the emblems of the ruling gods.

—Once a Week..

THE SCHOOL-HOUSE AS A FACTOR IN EDUCATION.

BY E. F. FLOYD.

It is told in ancient story that when Alexander the Great visited the Cynic Philosopher, Diogenes, and desired him to make some request, that old philosopher sitting in front of his tub only said, "Please to move out of my sunshine." Did not the old man, by that request, show something more than indifference for kingly power? Was there not hidden under that request a recognition of the higher life of man, and the effect upon its full development, of the sunshine of life, and the circumstances by which it is surrounded? That these conditions do affect the workings of the mind is evident. The teachings of the Great Master were chiefly from the objects of nature, and were shaded and shaped by the habits and tastes of the people of his time.

The ancient philosophers taught a far different logic, and produced far different results from those of a later day, when books or literature had been introduced. The Greeks, in order to enforce the stringent and oppressive laws of Lycurgus, had to abolish the old surroundings of taste and luxury, that accompanied the age of sensualism which had gone before. Divers courses of thought have come down to us from various nations, influenced by diversities of natural scenery and the surroundings of those nations.

The low, flat surfaces of the Dutch or German countries have, perhaps, by giving so few objects perceptible to the eye—no striking features to impress the mind with their own greatness or importance—led those countries in a literary direction, to create in the mind through internal perceptions, ideas that could not otherwise be formed.

England by its abundance of material,

has led its people into scientific development to bring out and utilize that material.

The warmer countries, acted on by the climate, the abundance of supplied productions, and not having the spur of necessity to urge them on, have made but little progress in literature, and less in the sciences. Various other influences—the laws of a country, its natural or acquired means or methods of education—all these have had great influence in moulding national character. Taking it for granted then, that the education and development of character, are dependent upon the circumstances by which a people are surrounded, it is consequently necessary, that in order to obtain the highest development, all of these should be favorable. In order to obtain the greatest strength of the intellectual faculties, we have to make provision for the physical life as well. We must then have the physical culture as well as the mental or intellectual, and in considering the schoolhouse as a factor in education, we must view it in both of these aspects.

First, intellectually.—As a person can not attain to full intellectual vigor shut up from his infancy in a dungeon, no more can he in many of our school-houses and school-yards, were those the only places of instruction. If there were no other places than these from which to derive instruction and mental strength, I fear we should not have our beautiful works of art, our poems, or those works of scientific and metaphysical research, which are a mine of wealth to every student. If we look for the source from which great minds obtain their strength, do we find it in our prison houses, we call schools, or in that other school-house that was completed and dedicated, when “God looked upon the world and declared it good?”

May we not learn something from the aged philosopher and ask with him, that the bare, unsightly objects be removed

from the sunshine of the mind? Can we not call to our aid skill and art, and make them contribute to turn our school-houses, so many of which look like stables or Indian shanties, into things of comfort, beauty, and architectural grace as well as places of mere instruction? In nature's great school-house we see all parts harmoniously blending. There is no stint of decoration, no lack of pleasing rests for the eye: on every hand we have geological cabinets, botanical gardens, collections of natural history, and above all, and around all, the glorious pictures she has scattered with a lavish hand. God in His great plan of education, has not failed to recognize our love of beauty and harmony. Should man then consider the natural longings of the heart as beneath his notice?

Physically the school-house is of still greater importance. The seeds of many diseases are without doubt sown in the poorly-contrived, over-crowded, and ill-ventilated school-houses. Look in for a moment with us upon one of our country schools. Standing, perhaps, upon the treeless plain, unprotected from the sun, crowded almost to suffocation, no seats worthy the name, perhaps a lot of movable benches that are so palsied that they totter and shake at every movement, and threaten to fall to pieces, the scholars sitting about the room in every attitude of melancholy and discontent. Look on this picture, and then look at these same scholars as they go languidly from the school-house, and we may judge that it is a factor indeed to them,—not of their advancement but their ruin.

Here is a work for the teacher, and it is a great one. It is his duty to instruct and by his instruction show to the people that there is something more demanded of them than to furnish four bare walls in which to instruct the children. The teacher can work through the pupil, create in his mind ideals, based on the perfect laws of

nature. Show him that by being shut up in these houses, that are built in defiance of hygienic principles, he is deprived of the fundamental rights that God has given him, and some day we shall see the result, if not at once, at least when these youths and maidens shall have taken their places upon the stage of life.

The farmer knows that the seed will not germinate, nor the harvest ripen, without the warm sunshine and the fresh air. He sees his flocks and herds seeking the sunny hillside, if too warm, the shade of friendly trees; and learns from all this that in order to have them reach their full perfection, they must have these same favorable conditions.

If a pestilence breaks out in a city or town, the people come forward and by the

strong arm of the law, say that means must be taken to stay its progress. But a schoolhouse may be standing at their very door violating all these conditions, and sending out every year young men and young women dwarfed physically and mentally by the influences of the place, to be a curse to the society which has been furnishing means for their education, that they might pay it back in intellectual vigor.

There must come a time when people will see that nature's laws cannot be broken with impunity, and that the circumstances which must surround the mind of the child, if we would have him reach the highest stage of physical and mental development, must not be in opposition to the laws which God has given for the government of His children.

EDITORIAL DEPARTMENT.

School Supervision.

The great want of the schools of California, is more efficient supervision. At present, it is literally true that in thirty out of fifty-two counties, the schools manage themselves. And under our present system, there is no remedy for this serious evil. So little are the wants of our educational system understood by the average California legislator, that, two years ago, the legislature passed a bill abolishing the office of County Superintendent in four counties, Tulare, Tuolumne, Kern, and Fresno, and providing that the Auditor of these counties should also perform the duties of County Superintendent, *without*

extra compensation. Fortunately, this law is not to take effect until January, 1878, and it is hoped the next legislature will repeal it.

We have already adverted to this subject of school supervision, and have shown the importance to the State of organizing and supporting some efficient system. The whole matter lies in a nutshell. The present salaries paid County Superintendents are entirely inadequate to enable them to exercise that thorough supervision so essential to healthy growth and progress. In many instances, the salary is not sufficient to pay the Superintendent's traveling expenses for more than a single visit per year to each school. In proportion to the

Superintendent's efficiency and conscientiousness, so his salary *decreases*. There is no inducement held out for thorough, honest work. Traveling expenses are large, and the State pays little. The less a Superintendent does, the more money he earns. Teachers are proverbially poor: is it strange that school supervision is reduced to a minimum?

The remedy for this condition of things is plain. Let us hope our coming legislators will see it.

The salaries of County Superintendents should be largely increased. It has been suggested that adjoining counties, where the schools are few, should be consolidated for school purposes, and a district Superintendent elected, at an adequate salary. The resulting benefit to our schools, from the reform indicated, would be simply incalculable.

A Word of Acknowledgment.

We entered on the business of publishing an educational journal very quietly; and since our first appearance, have wasted neither time nor space in trumpeting abroad our own praises—in reproducing what our contemporaries say of us. One word of acknowledgment is due, however, to the hundreds of earnest, devoted educators, who have sent us kindly words of greeting and of praise, and who have testified to their sincerity in the most substantial manner. During this vacation month, particularly, have they remembered us, and every day their support strengthens our belief in the success of our experiment.

We return them our heartfelt thanks for the encouragement they have given us. And we trust that when they return to their labors, and meet their fellow teachers, they will do all in their power to extend the circle of our usefulness. Of one thing, they may rest assured, that though highly commended by the press, and by all who

are interested in educational development, the JOURNAL is not, by any means, considered by us a perfect educational magazine. And our aim shall be to make such improvements in the variety and scope of our articles, as shall entitle us to the designation of a first-class educating medium for educators. In this endeavor, we claim the support of all interested in the development of our State and people.

Technical Education.

The following remarks by PROF. JOHONNOT before the Convention of County Superintendents of Pennsylvania, commend themselves to the attention and thoughtful consideration of every educator on this Coast. The subject, on which he speaks, is being agitated from one end of the land to the other. Efforts will, undoubtedly, be made by the next Legislature, to satisfy the demands of the people for some practical work in the schools, and it will be well for our teachers, and for their own best interests, if they thoroughly inform themselves on what is wanted by the age, and how that want can best be satisfied.

PROF. JOHONNOT said that among the many practical questions discussed he was sorry not to have heard anything upon one of the most pressing importance, upon which may turn the next great step in advance—the education of muscle as well as brain. The universal complaint is that we grade our schools toward the professions and away from manual labor. We have a kind of preparation for work in kindergartens, at the foot of the educational course; we find it again in the technical schools at the other end; but in all the grades between them, manual labor, the great business of the mass of mankind, is nowhere represented. Is it not possible for you, who have faced successfully so many problems, to help us toward a solution of this one? That was a good deed of the Boston philanthropist who invited the boys he found loafing on the streets into a workshop and furnished them with tools. It was called a "Whittling-school," but it

soon made good woodcarvers out of boys who were on the way to jails. The time is coming when we shall be obliged to attach workshops to our schools; and you can do something to hasten it.

THE *Pennsylvania School Journal*, for June, comes to us filled with extended and highly interesting reports of the proceedings of two Educational Conventions; that of the City and Borough Superintendents, and the County Superintendents' Convention. The questions discussed were Teachers' Institutes, Preparation and Improvement of Teachers, Grading and Courses of Study, Salaries of Superintendents, Permanent Teachers, Visitation of Schools, and many others. Addresses also were made by General Eaton, U. S. Commissioner of Education, Gov. Hartranft of Penn., and State Superintendent Wickersham. Meetings of this character are of immense assistance to educational progress. We hope California will do something in the same direction. We need it sadly enough; maugre the belief of many young teachers, that we are as near perfection as mundane institutions usually get. Annual meetings of the City and County Superintendents, and State institutes of teachers, added to the present County institutes, would soon revolutionize the present condition of education on this Coast. Inadequate salaries for County Superintendents, and no appropriations, whatever, for annual conventions, are insuperable obstacles to immediate meetings. But we trust that proper efforts will be made when the Legislature meets, to remedy this state of things, and to make provision for this most pressing necessity of our educational system.

THE action of our State Board of Education in placing *The Popular Science Monthly*, and other periodicals of a similar character, on the list of Library Books, is commendable. A little more attention to scientific reading would benefit our teachers.

A Meeting of County Superintendents.

A number of County Superintendents have requested us to suggest a general meeting of the County Superintendents of the State, to consult on measures effecting the welfare of the schools, before the next legislature. We believe such a meeting would be highly in the best interests of education on this Coast. Measures of great importance to education, will undoubtedly be subjects of legislation, and a consultation of those who have the general supervision, a discussion of educational means and ends, tending to harmony of action, will be of decided utility. We have no doubt that State Superintendent Carr will, if requested, call and preside over such a meeting. Our columns are open to County Superintendents for suggestions on this as well as on other points.

THIS has been, pre-eminently, a successful month for the JOURNAL. We wish we had space to publish the list of new subscribers. What specially pleases us is that it includes such names as McDONALD and BRIER of Sacramento, OLIVER of Gilroy, JAMES K. WILSON and JOSEPH O'CONNOR of San Francisco—but we had better not go on, for there are really so many representative names that we might as well publish the whole list.

GENERAL NOTES.

COLONEL VOULTER, the discoverer of the Ve-nius of Milo, died recently at Hyeres. When a midshipman in the French navy, in 1821, he landed on the island of Milo to search for antiquities, and noticed a peasant digging for stones in the ruins of an old chapel. The peasant had unearthed part of a statue in a very bad state of preservation, and, as it was useless to him, was beginning to cover it up again; but M. Voultier at once saw the value of the discovery, and bribed the man to excavate the figure completely.

THE bill appropriating \$55,000 to finish the monument to STEPHEN A. DOUGLAS has passed the Legislature of Illinois.

THE secret of the highest success in teaching, is the rare ability to impart and at the same time to receive knowledge. The best teacher goes daily into the presence of pupils expecting to make discoveries, never counting his gain at the close of the day by the amount of his salary.

MR. Frank Buckland has stated that "a salmon [*Salmo salar*] does not breed every year, but every three years." He has not brought forward any facts in support of this view, but this is his impression. An anonymous writer in *Nature* for March 1, considers, as the only unsolved problem in connection with the habits of the salmon, whether the same fish spawns annually, once in two years, or once in three years.—*Ex.*

CHILDREN are too often told to "be good" without being instructed that this "being good" consists in thinking, feeling, and acting rightly, and that only constant watchfulness, and earnest, persistant effort on their part, can accomplish the desired result. A good life, a righteous life, is never a perfect life, but rather a life whose aim is perfection, and whose every day of living is a day of warfare.—*Ex.*

IT has been a matter of great satisfaction to the educators of the country, that the National Bureau of Education has been able to accomplish so much in the matter of unifying, as well as promoting educational work in the United States. Personal observation has shown us that, notwithstanding great obstacles in its way, the Bureau has steadily grown in the confidence of educators, and in its ability to satisfy the demands of the people.
—*New England Journal of Education.*

THERE seems to be a sort of presentiment among scientists that there may be but *one force* and but *one element* in nature. The spectroscope reveals an element in the sun that has not been found pertaining to the earth. The name of this sun element is *Helium*, by common consent. The simplest nebulae consist of Hydrogen and Nitrogen, mainly if not entirely. Can they be allotropic conditions of Helium? If so, may not all the sixty-five so-called elements be also allotropic forms of Helium or some other single substance?

IN the death of James Lothrop Motley, American literature loses its most shining light. Though a resident of European cities for nearly twenty years, Mr. Motley was ever a thorough American in feeling and expression. During our civil war, no American did more to secure the respect of foreign statesmen for the Union cause than Mr. Motley. As a philosophical historian, he ranks with Macaulay, Hume, and Gibbon. His "*John of Barneveldt*," "*The Rise of the Dutch Republic*," and "*The United Netherlands*," are standing monuments of literary genius, of fidelity to principles of free government, of historical accuracy, and of uncompromising hostility to ultramontanism and kingcraft.

THE *Quarterly Review*, in explaining the etymology of "protocol," remarks that while the first two syllables doubtless are derived from the Greek word *protos*, first, the col is novel. It comes from the Greek *kolla*, glue. "First-glue," therefore, is the English substitute for "protocol." That seems like an obscure explanation, until it is added that the Greeks of the Byzantine Empire used to glue the first page to the papyrus roll, on which page they entered the date at which, and the persons by whom, the public document inscribed on the roll was drawn up. The word being of Byzantine origin, it has been very appropriately applied to the document which has been so much talked of during the past two months.

SOMETHING funny came up in my class, a little while ago,—only please don't credit it to Connecticut. The history class were reciting upon Pennsylvania, and as usual, had something of their own to offer on the subject. One young man asked in rather a skeptical tone, if it was really true that William Penn was ever obliged to shoot an apple, with an arrow, from the head of his son to save his own life. A sympathetic young lady, with the evident intention of delivering her classmate from the mortification of his blunder, made evident by an irrepressible though subdued laugh, said hurriedly:—"I have read that when Penn first entered Philadelphia, he carried a loaf of bread under each arm, and that he was ridiculed by a young lady, who afterward became his wife." When the three heroes had been put upon their respective pedestals and duly labeled, we all had a good laugh.—*Educational Weekly.*

HY. RAAB, Supt. of Public Schools at Belleville, Ill., having failed in securing from the board of trustees an appropriation for the establishment of a public kindergarten, established one at his own expense. He was quite successful; the association purchased an ample lot and put up a good building, adapted to the purpose. Miss Miller, a pupil of Dr. Douai's took charge of the kindergarten and has carried it on successfully for two years.

AMONG the countless vagaries and cruelties of parental despotism, none is fuller of harm, than the senseless haste in teaching children "their letters." At a time, when the little ones are still aglow with the first ecstasies of budding life, parental despotism thrusts a dead book in the child's face, with the peremptory order to learn to read. Reading should not be taught the child, therefore, before his taste for independent work, his appreciation of his own powers, his faith in his own resources are sufficiently strong to enable him to resist the charms of a morbid fancy: it should not be taught, before he can make use of it, for the legitimate purpose of the art; and it should be taught him, though in ever so narrow limits, with constant reference to these purposes.—*The New Education.*

ON the morning of the 29th of May, the last of the four brothers, known the world over as constituting the great firm of Harper Brothers, died at his residence in New York city. Fletcher Harper was the youngest of that remarkable brotherhood which, in a single generation, built up the famous publishing house which has exerted an abiding influence wherever English books and periodicals are read. Starting in life with a small money capital, they had mental power, and that typical American perseverance and ambition, which enabled them to push their way to a position that the truly ambitious might well envy. It is conceded that the subject of this brief sketch, was the guiding inspiration of the firm, so far as the periodicals were concerned.

The conception and execution of the *Weekly and Bazar* was the work of the younger and last surviving brother. The *Weekly* was his special pet, and, while he rarely, if ever, wrote a line for it, his keen sense of what was good, and his judgment of what the public demanded, made him a power, and gave him an influence with the reading public such as few men have ever been able to boast. He was a man fertile in ideas,

and full of enterprise. He was a good judge of the capacity of men, and rarely failed to secure the right man for the special departments of work essential to the success of the undertaking in hand. He was born in 1806, and at the age of 10 years went with his family to New York city. He was a school mate of A. T. Stewart, and at 16 he went into the composing-room of J. & J. Harper, his elder brothers, then printers and publishers. They promised him a partnership when his savings amounted to \$500,—and in 1825, when only 19 years of age, he had the required amount, and eight years later the firm was changed to Harper Brothers, the present style. The four brothers made an admirable combination. Each had his own proper part in the supervision of the great house. They acted in perfect harmony,—for thirty years kept no separate accounts. They lunched together, and always counseled each other on all important matters of business. Fletcher being a "born journalist," naturally became the main-spring of the house, and originated most of the new ventures. The great firm is now in the hands of the sons of these four brothers, who will, we trust, continue to hold the same proud position in the literary world as did their fathers. The book-trade paid the last tribute of respect to one who for 56 years had been one of the foremost men among them, by passing appropriate resolutions, and attending his funeral in a body. He died, as he had lived, in firm faith of the joys awaiting the Christian beyond the grave.—*New England Journal of Education.*

Teachers' Institute Held in Calaveras County.

FIRST DAY.

Agreeable to announcement the Calaveras County Teachers' Institute convened in San Andreas, May 9th, 1877. An organization was effected at 1 o'clock, P.M., and the following officers were chosen to assist Supt. Beal as *ex-officio* Chairman: E. F. Floyd, Vice President, and F. H. Day and Miss M. S. Stedman, Secretaries. After which the Chair made the following appointments: Committee on Resolutions—J. H. Wells, E. F. Floyd and H. Lieginger. On Programme—Prof. Allen, J. S. Lloyd and F. H. Day. On Introduction—N. C. Hanscom, Maggie Thornton and Mattie Coulter. On Music—Mrs. M. E. Richardson, Lizzie Thornton and R. Morgan. A recess of half an hour was then granted,

during which time the names of about forty teachers were enrolled. The Institute being called to order, Prof. Allen proceeded to instruct the teachers in the methods of classifying a school and conducting the recitations. In the most agreeable manner was a great deal of valuable information communicated to the teachers, upon the requirements of pupils, of what should be attempted by the teacher, and upon the acquisition of such knowledge as will meet the requirements of every day life.

Moved and seconded that the hours for the session of the institute correspond with school sessions. Carried.

SECOND DAY.

Pursuant to adjournment the Institute was called to order at 9 A. M., Supt. Beal in the Chair. Minutes of first day read and adopted. The exercises opened with a song by the choir entitled, "Summer Morning." An hour was devoted to the consideration of the subject of arithmetic, conducted by Prof. Allen in a lively, vigorous, and highly interesting manner.

Prof. Allen having concluded his exercise, the Chairman declared any question, relative to school matters, now in order. Mr. Lloyd accordingly offered the following resolution:

Resolved, That Rolls of Honor as published in the newspapers are generally Rolls of Injustice.

Its adoption was moved and seconded and a discussion ensued in which the following teachers participated: Messrs. Lloyd, Morgan, Floyd, Hanscom, Beal, Day, and Prof. Allen. On motion the resolution was laid on the table.

A recess of fifteen minutes was taken, after which the Institute was entertained with music—a quartette—by Mrs. Richardson, Miss Coulter, Prof. Allen, and Mr. Morgan. Prof. Allen resumed his remarks upon the subject of arithmetic.

AFTERNOON SESSION.

Institute called to order at 1 o'clock, Vice President Floyd, in the Chair. Mr. Allen being informed that the time was at his disposal to proceed with exercises, the subject of spelling was taken up for consideration. The exercise opened with the question: What constitutes a good speller? Several opinions were given, preference accorded to the answer—an ability to spell correctly all words one has occasion to write. Particular attention to be paid to common words; and as, in after life, all spelling is done with the pen, written exercises are decidedly preferable. If ever a person becomes a good speller, he becomes so through perception and not through the faculty of memory.

A recess of twenty minutes was declared, after which the Institute was highly entertained with a solo by Miss Mary L. Stedman entitled, "Carry Me Back to My Mother's Home," Mrs. M. E. Richardson presiding at the organ.

The remainder of the afternoon session was devoted to the discussion of school matters, generally. The question arose as to whether a teacher violates the law by not requiring excuses from pupils for absence. Remarks upon the question by Messrs. Liegtinger, Floyd, Beal, Wells, Hanscom, and Mrs. Morgan.

Mr. Wells requested Prof. Allen to state what he considered the best plan to teach reading to small pupils. Mr. Allen stated that the whole depends upon the training of the eye. That the old way of teaching the alphabet should be discarded at once, if practiced at all. Letters composing short, easy words and the words should be taught simultaneously. But children should not be required to read, until they can call short sentences at sight. The Professor makes his remarks very forcible by amusing illustrations.

Mr. Allen very much interested the members of the Institute with a short exercise in printing capital letters.

The time having arrived for adjournment, the Chairman announced that Prof. Allen would lecture in the evening, and the Institute adjourned at 4 P. M.

THIRD DAY.

Institute called to order at 9 o'clock, Supt. Beal in the Chair. Name of T. J. Peachy enrolled. Song by the choir entitled, "Hail to the New Year," followed by a very able essay—"The Schoolhouse a Factor in Education," by E. F. Floyd.

Instructive remarks with blackboard illustrations by Prof. Allen upon the method of teaching multiplication and division.

A lively discussion followed upon the subject of grading schools in which a number of members participated.

A short vocal exercise upon the sound of letters preceded adjournment, after which the Institute adjourned to meet at 1 o'clock.

AFTERNOON SESSION.

Institute met at 1 o'clock, Supt. Beal in the Chair. Miss Martha Coulter entertained the Institute with a song entitled, "Call Her Back and Kiss Her,"—finely rendered and well received.

Prof. Allen followed with a few remarks upon primary reading. The sentence method of teaching reading preferable.

Mr. Haley held the attention of the Institute with a short address upon the subject of elocutionary reading.

The Committee on Resolutions made the following report which was adopted:

Resolved, That we tender our thanks to Prof. C. H. Allen, of the State Normal School, for his suggestive instructions and entertaining lectures.

Resolved, That the thanks of the Institute are hereby tendered to those ladies and gentlemen who have favored the Institute with vocal and instrumental music.

Resolved, That the thanks of this Institute be hereby tendered to the people of San Andreas, for the interest manifested by them in the proceedings of the Institute, and for their endeavors to make our stay in San Andreas pleasant.

Resolved, That the thanks of this Institute be hereby tendered to the officers of this Institute, for the very able manner in which they have discharged their respective duties.

WHEREAS, A certain resolution was adopted by the last Teachers' Institute held in this county, condemning the means used by the State Board of Education and the County Superintendent, for securing the attendance of teachers upon the Institute, denominating them as tyrannical and unjust, and denying the right of any Board to revoke certificates for non-attendance etc., therefore, be it

Resolved, That it is with regret that we see said resolution appearing upon the record, and that it is the sense of this Institute that it is the duty of the County Superintendent to secure, by every means in his power, the attendance of every teacher in the county upon the Institute, and that we esteem it not only a duty but a pleasure thus to meet for mutual improvement.

Resolved, That we request the County Superintendent to secure the services of Prof. Allen, if possible, to conduct our next County Teachers' Institute; if not possible to secure the services of Prof. Allen, then some other *practical* instructor.

J. H. WELL,
E. F. FLOYD, } Committee.
H. LIEGINGER,

The Chairman declared a recess of twenty minutes, after which the Institute was favored with a duet by Mrs. M. E. Richardson and Miss Mary L. Stedman entitled, "She Sleeps in the Valley"—finely rendered and well appreciated.

Prof. Allen was called upon to take the floor, and in this address as in all his addresses to the teachers, gave the most valuable advice for the government of schools, and concluded by extending a cordial invitation to the teachers to visit the State Normal School.

Judge Reed being present was invited to make a few remarks, in which he indorsed the sentiments of Prof. Allen and thanked him sincerely, in behalf of the community, for his sound, prac-

tical instruction, and concluded with a well merited compliment to the high qualifications of Mr. Allen.

The Institute was again favored with more excellent music in the form of a duet entitled "Robin Ruff," by Mrs. Richardson and Prof. Allen, Miss Emily Day presiding at the organ; sung with effect and heartily applauded.

Supt. Beal then thanked the teachers for their united assistance during the session, and declared the Institute adjourned *sine die*.

E. H. Day,
Miss Mary L. Stedman,
Secretaries.

The Teachers' Institute Held in Humboldt County.

FIRST DAY,

The Institute organized at 10:50 A. M. on Tuesday, May 29th, E. C. Cummings, County Superintendent, presiding, and Prof. Allen of the State Normal School, being present. Dr. J. Ashton was elected Secretary, and on motion the subject of Music was delegated to the care of Mr. J. M. Dickson. Teachers then enrolled their names, and 60 were found to be present.

The following communication was read:

E. C. CUMMINGS, Esq., County Superintendent of schools—Dear Sir:—Please accept for yourself and the members of the Teachers' Institute, now in session, a cordial invitation to be present at the Methodist Church in Eureka, on Wednesday evening May 30th, to participate in a citizens' Temperance meeting, the ninth of a series of weekly efforts for the creating of public sentiment favorable thereto. Yours, very truly,

G. S. HASWELL.

President of Citizens' Temperance movement.

AFTERNOON SESSION.—Institute called to order and roll call. Mr. Sanders asked some questions in reference to the arrangement of pupils in classes. Mr. Dickson replied that when pupils got some distance apart in studies, the separation into classes, in his opinion and experience, involves but little additional loss of time.

Mr. Dickson suggested that Mr. J. B. Brown illustrate the application of cancellation in Interest. Mr. Cummings added to the request that he also include the subject of teaching Percentage. Mr. Brown asked that spelling be not forgotten by the Institute, and then illustrated the subject of cancellation, and the general method pursued by him, viz: considering only Base and Rate as factors, and Percentage as a product,

and all operations as dependent on these relations. A class for illustrating the subject, consisting of Messrs. Dickson, Albee, Eddy, Rager, Kire Smith, Fablinger and Ogden, performed some examples on the board. Prof. Allen, of the State Normal School, by one of the examples by the class, exemplified the 6 per cent. method of Interest, giving his reasons for preferring it, and showing its simplicity and universal application. Mr. Brown asked for some discussion on the subject of spelling, and it was made the subject for discussion after a recess of fifteen minutes. Recess taken.

After recess Mr. Eddy gave it as his opinion that the matter was much more in the hands of the teacher than in the text book; that he would not like the Spelling Book replaced. Mr. Sanders followed, confirming the previous remarks, and stating his method of teaching spelling in conjunction with reading. Mr. Sarvis desired that all aids be invited, and depended fully as much on dictation as on oral exercises. Mr. Inskip thought that the definition of words was an important aid to correct spelling; that spelling can only be learned not taught. Mr. Sanders, in agreeing with Mr. Inskip, used the remarks of the latter to confirm his preference for using the Readers. Mr. Rager stated his experience, favoring generally the retention of oral and dictation exercises, but expressing dissatisfaction with results attained by him. Mr. Dickson stated that the trouble was in neglect in the primary classes—that when children were poor spellers and had reached the 3rd Reader, it was hard work to make good spellers, and stated his plan of teaching the younger ones by thoroughly spelling every word, and spelling promptly, without thinking or repeated trial. He also gave his own experience of studying each new word, and called attention to the importance of training the pupil to observe and study for himself. Mr. Kire Smith asked how to teach the words (old plans and new,) whether it was to spell each syllable, or spell the word and give the final pronunciation. Mr. Eddy expressed the idea that words are pictures, or objects having definite form, and therefore train pupils to see and describe for themselves, by letting them do all the work of correcting and calling words. Mr. Sarvis claimed that as words were really pictures, he used all means to get an accurate view of the words. Adjourned till 9 A. M. to-morrow

SECOND DAY.

Institute met at 9 o'clock A. M. all the officers

being present. Minutes read and approved, and roll call. Mr. J. M. Dickson, assisted by Prof. Allen, Mrs J. B. Brown, and by Mrs. M. A. Casperlin at the organ, sang, "Soldiers' Memorial Day" with impressive effect. Rev. Dr. Haswell then opened the exercises of the day with appropriate prayer. On suggestion of Prof. Allen the Roll was called and numbers given each member. Prof. Allen was introduced to the Institute, and reminded the members that three things were to be noticed by the teachers present, before commencing work; 1st. That there was no royal road to good work in teaching. 2nd That teachers should not believe him as infallible, as stating the ultimate best method, and 3rd, That they should think and fire off questions at him.

Among other things, Prof. Allen went on to say,—there is generally too great a desire to teach and not enough attention given to training. Teachers should aim to give power rather than knowledge. Give the pupil knowledge, and it will slip from him; give him power, and he will gain knowledge in spite of everything. An important lesson can be learned from the training for physical effort, where feeling is subordinate to work performed.

These thoughts were logically elaborated and the lecture would be not only profitable to teachers but interesting to every one.

A recess of fifteen minutes was taken, after which Prof. Allen introduced the subject of teaching primary Arithmetic, arguing that arithmetical questions comprise two subjects, "What to do," and "How to do it." Then, on the board, he illustrated the subject of counting by groups, and then, with the Institute for a class, showed the plan of teaching counting by groups of 2, earnestly advocating a strict decimal rotation, and made plain a system of teaching addition and subtraction at once simple, and lasting. The following communication was then read:

To the Officers and Members of the Teachers' Institute of Humboldt county:—LADIES and GENTLEMEN—The pleasure of your company is desired at a social to be given by the Americus Club at the parlors of the VANCE House, Thursday evening, May 31st. Compliments of the
AMERICUS CLUB.

On motion of Mr. Dickson the Secretary was instructed to notify the Americus Club of the acceptance of the invitation, Adjourned to 1:30 P. M.

AFTERNOON SESSION.—At 1:30, May 30th, Institute met pursuant to adjournment. After

roll call the musical committee sang "Beautiful Summer" out of compliment to the beauty of the day, and to the pleasure of those assembled.

Prof. ALLEN then resumed the subject of teaching Primary Arithmetic, after which, at the suggestion of Mr. J. M. Dickson, he gave his views of teaching Penmanship, claiming that it and Drawing go together. He then organized a class of 20 Teachers for the purpose of illustrating his manner of teaching these much neglected branches, advocating muscular training as preliminary to making forms, rather than giving the pupil forms to imitate at the start. Then a general drill to exemplify a series of primary lessons which might be given by Teachers present to pupils in their respective schools on printing the capitals. Intermission of 14 minutes.

After recess, Mr. Ashton gave a synopsis of the method of teaching Penmanship as used by him. Prof. Allen gave his views on teaching History and Geography. The pupil begins, memorizes and forgets—begins memorizes and forgets—begins memorizes and forgets—until the end of the pupil or the school is reached. The better plan, in his opinion, is to teach that which is of use in after life, and leave, as a matter of reference, all that is not of every day use. Geography should be taught by mental pictures if practicable, with as large objects as possible, giving pupils a view of each continent and subdivision of the land surface of the globe. He gave his plan of teaching Geography by scissoring pictures, moulding continents, etc., and recommended Mayne Reid's "Afloat in the Forest" and Jules Verne's "Six weeks in a Balloon" as valuable aids to the teacher.

The 3rd. and 4th. days were mainly occupied by Prof. Allen in instructing the Institute in methods of teaching Language, Reading, Spelling, Writing and Drawing, Philosophy, Botany, and Natural History. Prof. Allen was exhaustive in his explanations and the teachers present showed a commendable degree of attention and interest.

At the close of the session on the 4th day, the following report from the committee on Resolutions was read:

WHEREAS, our distinguished fellow-laborer and educationist, Prof. C. H. Allen, has visited us, and has conducted our Institute in a most efficient manner, illustrating in his genial and happy way the art of teaching so that the result must necessarily be productive of incalculable good to the interests of education in our country, and

WHEREAS, he has shown the greatest skill and most untiring zeal in his labors, therefore,

Resolved, That we do hereby express our sincere confidence in him, and extend to him our warmest sympathy and most hearty thanks.

J. B. CASTERLIN,
JAMES M. DICKSON, } Committee.

This resolution was unanimously adopted. Mr. Cummings, before declaring the Institute closed, delivered a formal Valedictory as Superintendent of Schools. He stated that this was probably the last time that in his official capacity he would stand before the teachers of Humboldt County. He had many pleasing experiences to cherish, and, in his work, had got earnest help from his fellow teachers. He had, of course, met with some sharp corners, but had endeavored to do his duty, his whole duty, and nothing but his duty, entirely and completely; and, no matter what the result may have been, his intention and aims had been uniformly in the direction of what he honestly believed to be for the best interests of the Common Schools under his jurisdiction. In taking leave of his associates, he expressed thankfulness for the support he had received, and hoped that his successor would meet with the same or more success in the matter of improvement in the school work of the county, as he had witnessed.

The attention of teachers was called to the Map of California and Nevada, published by the State Geological Survey, as accurate, recent and reliable.

The Chairman then declared the Teachers' Institute of Humboldt County for 1877, finally adjourned.

ITEMS FROM COUNTIES.

SAN FRANCISCO COUNTY.

June being the vacation month, the educational Potomac has been exceedingly quiet.

The salary of John Swett, Principal of the Girls' High School, was raised from \$3000, to \$4000 a year.

Ex-Superintendent James Denman spent a part of his vacation with Prof. Chas. H. Allen in making the ascent of Mt. Shasta.

Joseph O'Connor, well known as the able Principal of the Washington Grammar School, was elected a member of the City Board of Examination, vice John Swett, resigned.

There was a surplus of \$94,000 in the School Fund of this city for the years '76-'77.

An interesting episode (for two at least) of the vacation month, was the marriage of Miss Anita

C. Ciprico, Vice-Principal of the Valencia Grammar School, an efficient, cultured teacher, to Henry M. Black, well-known as one of the most liberal members of the present Board of Education, and a warm and consistent friend of educational progress.

Military drill is to be introduced into the Boys' High School, and the boys are to be instructed in the use of arms, as soon as carbines can be procured from the State.

ALAMEDA COUNTY.

The school districts of this County begin the new school year in a very healthy financial condition. Ocean View has over \$1,600 in the treasury, and a number of other districts have over \$1000.

The salaries of teachers of the Livermore schools have been reduced over ten per cent. for the ensuing year.

The study of German has been introduced into the Alameda High School, and Drawing into all the grades of the city schools.

The Alvarado school closed for the summer vacation on June 21st. It has been ably taught by W. F. Clawson, and Miss Fanny Ward.

SACRAMENTO COUNTY.

A pleasant episode in the early part of June, was an editorial jaunt to the State Capital. Accompanied by School Director Richardson and City Superintendent A. C. Hinkson, we made a tour of the schools of the city. If we had started (which we did not) with any little conceits as to the superiority of San Francisco schools, we were rapidly disabused of any such notions. We found an excellent department, with unsurpassed school accommodations, an efficient, enthusiastic corps of teachers, careful and competent supervision by the Superintendent and a Board of Education, who take great pride and interest in educational progress. Our first visit was made to the High School, which we found under the management of O. M. Adams, formerly of the College of California and of the Fifth Class of the University. Mr. Adams has been Principal of this school since '74, and both in general discipline and high grade of scholarship, the Sacramento High School stands the equal of any similar institution in the Union. In another column, we publish the examination questions used for promotion in this school, a few weeks ago. They indicate an extended course of study, and as the percentages on examination were very high, they show that the instruction is

thorough and efficient. Mr. Adams is assisted by Kirke W. Brier, well known as a highly-cultivated and successful teacher, formerly of Oakland and Alameda County. Within the last year, the Board of Education has erected a new High School building, of four large class-rooms, at a cost of \$12,000. This is an excellent building, and as the Board, at an expense of \$600 imported a good chemical and philosophical apparatus from Germany, the High School may be considered as well equipped. The Board of Education in Sacramento frequently exemplifies "civil service reform." Thus they have lately promoted two excellent Grammar School teachers, Miss Folger and Mrs. Colby to this school. Our next visit was made to the Sacramento Grammar School. This school, equally with the High School, is the pride of Sacramento. A brick building, three stories in height, with stone facings, on the general plan of the Oakland High School, but with many improvements, and costing \$75,000, affords ample accommodations to over 800 children, divided into fourteen classes, and under the general supervision of A. H. McDonald. This is one of the few schools of the state properly entitled to be designated "Grammar School," as it has only grammar classes. For seven years, this institution has been in charge of Mr. McDonald, an educator in the highest and best sense of the term, and known by reputation, at least, to the great majority of teachers on the coast. The evidences we saw, of system, order, and thorough methods of instruction, suggested or under the control of the Principal, indicate that Mr. McDonald's reputation has been well earned by superior merit and labor. This school is extremely fortunate, further, in some of the assistant teachers. Miss M. J. Watson, a lady of excellent attainments and efficiency, well known as a member of the State Board of Examination, is the Vice-Principal. Misses Weeks, Wells, McMenomy are earnest and successful teachers. Notable in the corps of instructors, is the special teacher of German, Mr. Albert H. Unger. We witnessed a recitation of a third grade class in German, instructed by this gentleman. We never before saw the same amount of interest manifested by a class of American children in a foreign language. The class was on the *qui vive* from the beginning to the end of the recitation. The pupils seem to have learned more after one year's instruction by Mr. Unger, than after four years in other classes we have known. We ascribe this mainly to that gentleman's origi-

nal methods of instruction, and to the good order he insists upon and gets. On leaving the Grammar School, several Primary schools were visited, but space admits the mention of but one class, a Fifth Grade, taught by Mrs. S. P. Byrod. We know no resident of Sacramento will consider us too enthusiastic, when we declare, that Mrs. Byrod is the finest primary teacher we have ever seen. Her manner in the school-room, quiet, decided, yet kind, appeared to us, simply perfection. Our visit, pleasant in a social point of view, proved highly remunerative also to the interests of the JOURNAL. The Sacramento Teachers did much towards spoiling us (if that were possible) by the flattering encomiums lavished on the JOURNAL. They demonstrated their sincerity however in the most substantial manner. We could go on in half a dozen columns, giving interesting instances of excellent provisions by the Board of Education, careful supervision by the Superintendent, and new and improved methods of instruction by teachers, but space admonishes us to close. We trust to hear frequently from Sacramento.

SANTA CLARA COUNTY.

Salaries in the schools of Santa Clara City have been reduced.

There have been a number of important changes in the San Jose schools this month. City Superintendent James G. Kennedy has assumed the Principalship of the High School, vice Prof. J. B. Finch, elected City Superintendent. T. E. Kennedy, a young teacher of eminent ability and scholarship, was re-elected Vice-Principal of the High School.

E. Rousseau, the able and popular Superintendent of this County will probably be re-elected, this fall. He deserves the confidence universally reposed in him.

Prof. A. W. Oliver, Principal of the Gilroy Schools, has just closed the schools for the summer vacation. Prof. Oliver has made the Gilroy schools equal to the best in California; here, as wherever he has taught, he has made his mark, as a highly cultivated and successful teacher.

SOLANO COUNTY.

Prof. C. W. Childs, the County Superintendent of Solano, is undoubtedly the unanimous choice of the teachers for the position for another term. Mr. Childs has done wonders for the educational matters of the County, and we feel that the people will show their appreciation by re-electing him in September.

The Benicia school, under the principalship of A. W. Sutphen, has been making most excellent progress during the past term. The Benicia School Journal comes to us monthly, and bears constant evidence of unabated progress on the part of pupils, and efficient teaching and supervision by Mr. Sutphen.

Mr. Wm. Crowhurst, who describes in an article this month, how he entered the pedagogic profession, is one of Vallejo's best teachers. He is also a prominent Good

Templar, and is justly esteemed in many parts of this coast as an earnest and devoted friend of temperance.

HUMBOLDT COUNTY.

We see that many prominent teachers in different parts of the State, announce themselves as candidates for the County Superintendencies in their respective counties. Especially is this true in Humboldt County, where Messrs. Inskip, Dickson and Casterlin, well-known and popular teachers, are aspirants.

In the Van Dusen school district, in this County, the teacher, Miss Mittie Bradner reports, for the month of June, 98 per cent. of attendance, and only $\frac{1}{2}$ per cent. of tardiness. Are there many district schools that can do so well?

Prof. Allen, Mrs. J. B. Casterlin and J. B. Brown and wife left for Hydesville early in June, and the visitors were the guests of Mrs. Casterlin during their tarry at that point. On Sunday evening Prof. Allen lectured at the Congregational Church to one of the largest audiences that ever assembled in Hydesville, and the people only regretted that he could not talk to them every night for a week. Early in June the Professor and Mr. Brown started for Weaverville, via Blocksburg and Hay Fork. They will tarry in the hills of Humboldt for a few days to catch trout and admire our glorious scenery. Prof. Allen will lecture at Weaverville and very likely one or two other points in Trinity, and then proceed to Yreka in time to attend the Siskiyou County Teachers' Institute.

The Trustees of Slide (Springville) School District have called an election to be held at the school house on Monday, June 25th, at which will be submitted the question of voting a tax of \$1,500 for building a new school house. We suspect that the people will vote "Yes."

MARIN COUNTY.

The Ross Landing School, in this County, N. H. Galusha, teacher, closed a successful term, June 15th. Closing exercises of considerable interest were held, which were well attended by the parents and friends of pupils.

The San Rafael school closed Tuesday, June 12, until the 6th of August.

SAN BENITO COUNTY.

Hollister, in this County, has an excellent school of which J. N. Thompson is Principal. The usual annual examinations have just been held and promotions made.

W. T. R. Helm, Principal of the San Juan School, and a teacher of high rank, is a candidate for the County Superintendency.

Mr. Housh, teacher of the Jefferson School, at San Benito, has returned home after a vacation on the sea shore.

SIERRA COUNTY.

J. S. Wixon, a prominent teacher of this County, has been nominated by the Republican Convention for the School Superintendency.

The citizens of Scales Diggings intend giving a Fourth of July ball; the proceeds of the tickets to go towards building a new school house in that locality.

VENTURA COUNTY.

The San Buenaventura School, of which C. T. Meredith is Principal, is one of the best public schools in Southern California. There are 239 scholars enrolled and taught by Mr. Meredith and four assistants, Mr. E. C. Drake, Misses Crowley and Southworth, and Mrs. Agar. Mr. Meredith in his annual report speaks encouragingly of the progress of the classes and efficiency of his teachers.

Mr. D. D. DeNure, who will doubtless be the Republican Nominee for County Superintendent of Ventura County, has well earned the pre-eminent position he holds among the teachers of his county. He has for five years, held the position of Principal of the Hueneme School, and has received the largest salary paid any teacher in the county.

SANTA CRUZ COUNTY.

The Santa Cruz Schools, W. W. Anderson, Principal, have finished a year of successful work. The examinations were passed by a majority of the pupils in each of the classes, reflecting credit on assistant teachers and Principal alike.

W. H. Hobbs, Principal of the Soquel school for eight years, and at present County Superintendent of this county will, at the close of the present month, engage in the book business. We trust Mr. Hobbs will retain the County Superintendency: he has been an honor to the position, and has benefited the cause of education in Santa Cruz County. An able [address made] by him before the Teachers' Institute of this County, on Teachers' Examinations, reflects views expressed by us in the columns of this JOURNAL. We shall give some extracts from this address, at an early day.

Miss Carrie V. Pratt, late a successful teacher in the Primary school, at Castroville, has accepted a position in the Watsonville school department.

The Corralitos school in this County, is taught by Clarence M. White, Principal, and Miss Minnie C. Bassham, Assistant.

SONOMA COUNTY.

Mr. Melville Dozier is Principal of the public schools of Santa Rosa. There were 891 pupils in attendance during the past school year.

There is considerable complaint of lack of school accommodations in this County. The number of school children has increased so rapidly within the past few years, that the school houses have not been able to keep pace.

Santa Rosa has a good reputation for private schools, as well as for her excellent public schools. Among the most notable of the former, is the Academy for boys, conducted by G. W. Jones.

The Bloomfield school, presided over by Mr. and Mrs. J. W. Haskins, makes an excellent showing in the scholarship and deportment report of pupils.

The Hamilton District school, E. F. Adamson, Principal, is in a very flourishing condition. The school house is still furnished with uncomfortable, old-fashioned seats, but the Trustees propose to secure patent desks and other needed improvements.

LAKE COUNTY.

County Superintendent L. Wallace edits an interesting and valuable "Educational Department," in the *Lake County Bee*. We hope Mr. Wallace will contribute something to the pages of the JOURNAL, where the teachers of the whole State may see it.

The school house recently erected at Lower Lake is a credit to the community.

Mrs. E. F. Hatch read a clear and able paper on, "The Word Method" before the Lake County Teachers' Institute, which we expect to publish, at an early date.

TEHAMA COUNTY.

Prof. Gans, a graduate of an Eastern College, and lately

a teacher in New Jersey, has established an academy at Red Bluff.

The Red Bluff public schools, Edward Sweeny, Principal, held the closing exercises for the school year, at the school house, June 1st. Mr. Sweeny is the Republican candidate for Superintendent of Schools in this County.

TULARE COUNTY.

The County Board of Examiners in this County, are the Superintendent and Messrs. W. A. Wash, J. A. Novell, S. N. Burch, and J. V. Beach. Five First Grade, and four Second Grade certificates were granted to successful examinees.

PLACER COUNTY.

T. S. Myrick, well known as a prominent teacher in San Francisco, a few years ago, is Principal of the Ophir School, near Auburn. He is deservedly popular; and is not only a successful farmer, but has one of the finest schools in the interior of the State.

Examination Papers.

The following set of examination papers were used in the Sacramento High School, at the annual examination in May, 1877. The questions, on which the pupils, we understand, obtained a high percentage, are very thorough, indicating a high grade of scholarship.

GRAMMAR.

(100 credits; time 1½ hours.)

"What is worth doing at all is worth doing well."

1. Construction of *what*, and *worth*.
 2. Parse in full, *doing*.
 3. Construction and office of *at* and *all*.
 4. Agreement of the two verbs.
 5. Parse, in full, *well*.
- "Hope deferred maketh the heart sick."
1. Parse, in full, *deferred*.
 2. Parse, in full, *sick*.
3. Why the termination *th* instead of *s*? Where used?
4. In the sentence, "Thy boy having failed, was laughed at," parse, in full, *having failed*.
 5. Parse, in full, the predicate.
- "The horses ran away; they were both killed."
1. Reconstruct this, making one sentence a subordinate clause.
 3. Reconstruct again, stating the same fact, with an adjective.
 4. Show, carefully, the different shades of meaning.
 5. "They killed themselves." Parse *themselves*. Decline it.
- "Comes a vapor from the margin, blackening over heath and holt."

Carrying all the blast before it, in its breast
a thunderbolt.

1. Construction of *thunderbolt*; 2. Of *blackening*; 3. Of *in its breast*.

4. State four processes of teaching language lessons orally.

5. What works on grammar have you studied, and which do you prefer?

ANCIENT HISTORY.

1. Mention the principal nations that flourished before the Greeks. Mention the principal periods in Grecian History. Give some account of Lycurgus; of Solon. Name the ancient epochs, and give the date of each.

2. What causes led to the Peloponnesian War? Give the result of this war. State briefly what you know of the relations between Macedonia and Greece in the time of Philip and Alexander. Describe the Pythian, Nemean and Isthmian games.

3. When, and by whom, was Greece subjected to Rome? Give a brief account of the foundation of Rome, and its first form of government. What revolution put an end to the first government, and what government succeeded it? State some of the principal events of the Punic Wars, and what was their conclusion.

4. Give some account of the leaders in the Civil Wars. Mention the circumstances of the death of Julius Caesar. What events followed his death? When, and how, was the Eastern Empire founded?

5. What was its extent? For what was the reign of Justinian remarkable? Who were the Bulgarians and Slavonians? By whom was Jerusalem taken in 1096? Who was Tamerlane?

5. Why are the Dark Ages so called? What were the chief conquests of Charlemagne? What title did the Pope confer on him? Say something of his character.

7. Who were the Normans? What constitutes the chief feature in Saxon history? What was the *curfew*? The *Domesday Book*? Describe the Massacre of the Sicilian Vespers.

8. What led to the Massacre of St. Bartholomew's Day? When does the epoch of Modern History begin? When, and by whom, was the art of printing discovered? How was the Commonwealth established?

9. Explain the causes that led to the "War of the Austrian Succession." What conquest was made in America? What treaty was made at Aix-la-Chapelle in 1748?

10. What were the terms of the treaty of Campo Formio? Amiens? What led to Napoleon's abdication? What Congress was held? Give a brief account of the "Thirty Years' War."

NATURAL PHILOSOPHY.

1. In a compound lever, the arms towards the power are 8, 14 and 20 inches, and the others, 3, 4 and 5 inches; if the weight is 112 pounds, what power will be in the equilibrium?

2. How can you find the efficient part of a force, when it does not act in the line of motion?

3. What difference between forcing and suction pumps? Is the chain pump a pneumatic pump?

4. How is the Torricellian vacuum formed? Of what practical use was Torricelli's experiment?

5. What kind of a lever is the forearm? Name the three parts.

6. Illustrate *conjugate foci*.

7. What contrivance in the locomotive secures a great amount of steam, with the least possible expense of fuel?

8. Show how the specific gravity of a substance may be found by the balance, in three cases. What method is pursued in commerce and the arts?

9. What is the use of the magnet in the electro-magnetic telegraph instrument?

10. On what principle does the pendulum as a time-keeper and as a standard of measures depend?

BOYS' AND GIRLS' DEPARTMENT.

Edited by Mrs. L. A. K. Clappe.

THE Editor of the Boys' and Girls' Department of the SCHOOL AND HOME JOURNAL desires most emphatically to make it the particular domain of the young people of California. Had her object in the undertaking been merely to amuse, there would have been no especial necessity for the existence of this portion of the Magazine;

for periodicals, whose banners should flaunt that intent only, are as the sands of the sea; their name is Legion. But the Editor aims at better things than just to please; she has loftier aspirations for those whom the Galilean loved. In her dreams of possible beatitudes in connection with her office, she has hoped that

her own experiences, and those of others wiser and better than herself, who have reached the summit of Youth's Golden Hills, and begun to descend on the other side, might be of some benefit to the bright young creatures,

"Standing with reluctant feet,
Where the brook and river meet,"

in its purple atmosphere at its foot.

To realize her ideals, here even, she needs the co-operation of those "Wiser and better ones," and so respectfully urges the Teachers of the State to send her any original essays, poems, riddles, etc., of which the pupils under their charge are the authors.

To the children themselves, she would suggest, that they write to her on any, and every subject that may present itself. Their precious little letters shall be duly answered in this, their own especial department—She would call their attention to the dainty poems by G. T. and C. A. G. in the May and June numbers of the JOURNAL, to show them what bright things have already been done for her by two of their own order; and will say in conclusion to one and all, Go ye and do likewise!

Pet's Composition.

BY HELEN MATTIERS.

"What's the matter, Pet?"

"Oh! Aunty, to-morrow is composition-day, and I can't think of anything to write."

"Let me see what you have on your slate."

"Oh! Aunt Kate, I'm ashamed, it is so stupid. But you may read it, if you like."

Aunt Kate glanced over the slate that Pet held up for her inspection, and then stooped and kissed the tear-stained face of the young "composer."

"Oh! yes, I see. Trying to make brick without straw. Put up your slate now, dear, and come with me for a walk."

Aunt Kate was all ready to go out, with a basket on her arm, and Pet's scarlet cloak in her hands. The cape was soon wrapped around Pet's plump shoulders and her

hood drawn over her curly head, and they were off in a jiffy, for Aunt Kate is one of those brisk people who are never long a doing, and who stir up lazy folks as you have seen the wind whisk dry leaves about.

"Where are we going, Auntie?" asked Pet, as she shut the cottage gate behind them.

"To the woods, for wild flowers."

"Oh! how nice!" and Pet gave a little scream of delight, and with a skip, hop, and a jump, was off down the grassy lane. At the end of the lane there was a stile, and when you crossed that you were in the woods. Here Pet sat perched like a red-bird on the topmost step, when Aunt Kate came up.

"Well, Red Riding Hood, have you seen the wolf to-day?"

"No; but I was afraid I might, so I waited for you. But I've seen two blue-birds, and a crow, and oh! the cunningest little squirrel! He ran up that beech tree and hopped into a hole, as quick as a flash."

By this time Pet had jumped off the stile and was scuffling among the dead leaves, making them crackle and fly about like mad.

"This way, dear, I always find the first flowers on this southern slope. Next month this bank will be ablaze with Indian pinks. Columbines grow higher up on that rocky ledge, but it is too soon for them yet."

"Oh! Aunty, come quick, before I touch them. The lovely little things! See how they are cuddled up together, to keep warm. What are they?"

"That is a very fine cluster of Hepatica triloba, commonly called heart-liverwort. In some parts of the country, I believe, children call them squirrel-cups."

"They do look like cups when half open. What a pretty color they are—such a bright blue they almost sparkle. What are you doing, Aunty?"

"I am going to fasten this bit of white paper to a stick and leave it here, so that we can find it when we come back."

"Oh! how funny! That is like the discoverers used to do when they found a new country. They always planted a flag the first thing. Here are some more just like those; only they are white. How close they cling to the knots of this tree, as if they were afraid and wanted the tree to

take care of them. Are there any more sorts besides blue and white?"

"Yes, some are of a pale rose color, and there are several varieties of blue."

"How odd the leaves look—so brown and battered, as if they had been out in all the storms of last winter."

"And so they have. After the blossoms have passed away the new leaves come, and they are quite pretty. Many of them are variegated."

"What beautiful ferns! Are they ever green, too?"

"Yes; these large ferns all grew last year. But here are a few tiny new ones just coming up." And Aunt Kate put down her basket and took out a trowel, and began to dig up some of the finest of the ferns, taking care to disturb the roots as little as possible. While she was thus engaged, Pet's scarlet cloak fluttered hither and thither among the leafless trees, quite lighting up the sombre woods with its brilliant coloring. Presently Aunt Kate called to Pet that it was time to go home. The little girl came running up, with her hands full of flowers, and her cheeks as red as her cloak, and her blue eyes sparkling.

"What a lovely little wood-nymph it is," thought Aunt Kate. "Quite an improvement on the heavy-eyed, white-cheeked slave of the slate."

"I have found some violets, and some other flowers that look like the white liverworts; but they are more delicate and have new leaves."

"These are wood anemones. They are dainty little things."

"Do you know, Aunty, they make me think of Cousin Alice. They are so fair and tender."

"And these sturdy hepaticas are like Alice's little country cousin, are they not? But here is the white flag, and my blue beauties quite safe." While Aunt Kate took up the hepaticas, Pet hunted for partridge-berries among the moss under a clump of pines close at hand. Just as Aunt Kate was ready to start, Pet called out:

"Don't you smell something good, Aunty—something spicy and fresh and woody? Oh! I've found it! It's a teenty-weenty flower, pink and white, and looks like wax; and it grows close to the ground, under the leaves. Oh! how sweet!"

"That is the celebrated May-flower, or

trailing arbutus. We are lucky to find it, for it is rare in these woods."

"Oh! Aunty! your basket does look too sweet! Let me put in my May-flowers, then it will smell sweet too."

I wish a painter could have seen Aunt Kate's basket after Pet added her rose-colored May-flowers and bright berries to its store of woodland treasures.

It would have made a lovely picture, with its fringe of graceful ferns, its dainty wild-flowers, and exquisite lichens, of all the delicate wood-tints. They heard the tea-bell ring as they entered the cottage gate; and Pet said she was as hungry as the wolf that ate Red Riding Hood. After tea, Aunt Kate asked Pet to come to her room. Aunt Kate's room was the cosiest place imaginable, and Pet was always glad of an invitation to visit it. This evening a cheery fire burned in the open grate, and a lighted lamp, with a pretty green shade, stood on the table. Aunt Kate's easy chair was drawn up at one side of the table, and Pet's little rocker at the opposite side. There was a bow window, full of plants and hyacinths, blooming in glass. And two sides of the room had book-cases, from the floor to the ceiling.

"Oh! how nice!" cried Pet, as she sat down in her little chair and began to rock herself, as if she had been a very cross baby.

"Now, dear, what are you going to do until bedtime? You will have two whole hours to spend as you please."

"I don't know, Aunty. What do you think I'd best do?"

"Suppose you write to Cousin Alice and tell her about our ramble. She will be glad to know that the wild-flowers are in bloom."

"Thank you, Aunty, I'm glad you thought of it. Poor Alice, I wish she lived in the country. It must be so dismal to be shut up in that great town."

And Pet ran to fetch her slate and pencil, and was back again directly and writing away as fast as her fingers could move, with a smile on her lips, and an eager light in her eyes. Aunt Kate was knitting, with an open book on the table beside her; but she looked at Pet's bright face oftener than at the pages of her book. Long before the two hours were up, Pet had written closely over both sides of her slate, and laid it away carefully in one of the drawers of Aunt Katie's table, to be copied on the

morrow. She sat looking thoughtfully into the fire while Aunt Kate turned the heel in the tiny scarlet sock that she was knitting for Pet's baby brother. As Pet drew a long breath, Aunt Kate looked up and said:

"A penny for your thoughts, my dear."

"They're not worth a penny. But I would give something to be rid of them. It's that old 'composition' again. I don't believe I shall sleep to-night, for thinking of it."

Aunt Kate laughed softly, and tapped with her knitting-needle on the drawer in which the slate was so safely stowed away. Pet is very bright, although she doesn't like to write "compositions," and in a minute she had her arms around Aunt Kate's neck and was patting her cheeks and kissing her, half laughing and half crying at once.

"Oh! you darling duck of an Aunty! To think of me writing a 'composition' without knowing it. I never heard of such a thing. And so easy, too! I wish all the girls had an Aunt Kate.—*Independent.*

Latin Acting Gharade.

SIC TRANSIT GLORIA MUNDI.

BY M. B. C. SLADE.

CHARACTERS.—*Mr. and Mrs. Miles; Angelina, an invalid; Dr. Castor; Kate and May, children; Bridget, the washerwoman; Anna and Nellie, young ladies; John a student.*

Speaker.—Our subject is a familiar Latin quotation of four words, represented in four scenes. The first word is of one syllable; the second, of two syllables; the third, of four syllables, and the fourth, of two syllables.

SCENE FIRST: Sic. A sick room. *Mrs. Miles, standing; Angelina, in a reclining chair; Kate, tending a kitten; May, holding a doll; Dr. Castor enters.*

Mrs. Miles. (*Advancing to meet him*).—Good-morning, my dear Dr. Castor; Angelina is very ill!

May. (*Showing her doll*).—And dolly is needing a plaster.

Kate. (*Showing her kitten*).—And kitty requires a pill.

Doctor C. (Seated by Angelina).—Pulse?—quick. Tongue, Miss. Much fever?

Mrs. M.—Her head, it is far from right.
Doctor C.—We must cut off her hair, to relieve her.

Angelina.—That, Doctor, will kill me, quite!

Doctor C.—I fear we shall have to do it!

Mrs. M.—Will it help her? Then do is, quick!

Angelina.—Alas! I can never go through it?

(*Mrs. M. supporting Angelina; May lifting her doll; Kate presenting her kitten.*)

All. (*In concert.*) Dear Doctor! she's very sick. [Curtain falls.]

SCENE SECOND: Transit. A parlor. *John sits at the table studying Astronomy. Anna and Nellie, promenading, converse about their travels.*

Anna.—Our journey across the Isthmus Half stifled us with heat.

Nelly.—*Au contraire*, we in crossing the Alps

Half froze our fingers and feet.

Anna.—Were you sick in crossing the ocean?

Nelly.—Yes, when we were crossing the line.

John. (Impatient.)—Cease your transits, your talk, and commotion, you hinder this lesson of mine!

Anna.—Let us hear the lesson. Recite it.

Nelly.—We grave as professors will be.

John. (Contemptuously.)—Were I wrong, you never could right it. You don't know Astronomy.

(*Recites, looking on and off the book, while the others continue to cross and recross, "The Transit of Venus."*)

Venus is sometimes seen to pass over the disc of the sun,

Presenting, when this thing happens, a certain phenomenon

Analogous unto that of a solar eclipse by the moon,—

(*To the girls.*)—If you only would cease your transits, I could learn my lesson soon.

Anna.—Can you recite the story of pious Jeremiah?

John.—Not I!

Anna.—Nell can!

John.—Oh, nonsense! come, now, I'd like to try her.

Nelly.—Good Jeremiah Horrax, an Englishman of Hoole.—

Anna.—Where's that?

Nelly.—An English village, somewhere near Liverpool.

John.—Pray stick to your Astronomy, as though you were in school.

Nelly.—And fail in my Geography, and be pronounced a fool?

John.—Go on with Jeremiah; (of that I see no sign.)

Nelly. (*Resuming.*)—Found Tycho Brahe incorrect; this here then of mine Predicts a transit that should come in 1639. Our pious student longed to see this great phenomenon, But found alas! that it would come the Sabbath-day upon!

As Jeremiah Horrax always went to church, he fancied

'Twould be a sin to stay at home a-watching Venus' transit.

So after waiting eight long years, this pious duty hard did,—

He went to meeting twice that day, and thus was he rewarded:

Fair Venus saw his duty done, and, to repay him for it,

'Twixt meetings transited the sun! So Jeremiah saw it!

[*Curtain falls.*]

SCENE THIRD: *Gloria.* Parlor scene: *Angelina*, in a close cap, holds her beautiful hair in her hands and weeps over it; *May* holds her broken doll, and *Kate* her kitten; *Mrs. M.* sits with her handkerchief to her eyes.

Ang.—My hair,—it was my *glory, ah!* That cruel doctor cut it, ma!

Kate.—My cat, she was my *glory, ah!* That cruel bone has killed her, ma!

May.—My doll, she was my *glory ah!* That cruel rocker smashed her, ma!

[*Curtain falls.*]

SCENE FOUR: *Mundi.* Mr. and Mrs. Miles, *May*, and *Bridget*.

Bridget.—An' how will I do the washing? An' where be the clothes and soap?

Mrs. M.—Go find them down in the laundry;

You know how to wash I hope.

Mr. M.—Shall we have an excellent dinner?

Shall Jones dine with me today?

Mrs. M.—On Monday? you thoughtless sinner!

No, keep all your Joneses away.

Mary, (*With a crushed hat.*)—I must wear my Sunday bonnet; My school-hat is crushed and torn!

Mrs. M.—Ah! well-a-day, mercy on it! The bothers of Monday morn.

Mrs. M. (Alone.)—My children's pets I hear them mourn;

My daughter's curls have lost their glory, So from us oft repeated joys are torn, Our best delights are transitory.

We watch our dearest hopes arise, And then we see them, one by one die.

Shall not we write before our eyes This truth: *Sic Transit Gloria Mundi!*

—*New England Journal of Education.*

Change.

A tiny drop of water floating by itself at sea, Having traveled all about the world, for many a long year, Ambitious now for any change, and other sights to see,

From crest of wave leaps upward, though trembling much with fear.

A gentle wind that's passing by, with arms to utmost stretched, Gladly receives this little drop, and bears it up on high, The wind keeps rising, and the drop, by gentle breezes fetched, Mounts upward, upward, higher still, up to the very sky.

At first this tiny little drop is dizzy with affright, And cannot, in its quick ascent, look down on sea or land; But moving up less rapidly, accustomed to the height; It feels delightfully refreshed, as by cool breezes fanned.

O'er land and sea it moves along. Ah! what a glorious sight

Is now spread out before its gaze, for miles and miles around!

Magnificent! Indeed it is, before, to left, and right;

But stillness now reigns everywhere, as if there were no sound.

Intoxicated with its flight, this tiny drop moves on;

And pride soon fills its little heart, and haughtiness its thought.

But, ah! not long does it remain, by treacherous winds borne on;

For soon its pride must have a fall, its grandeur come to naught.

Far over ocean, sea, and land, o'er continents 'tis borne;

From Afric's shores, and India's strand,
across Pacific's tide,
Till now, at length, Sierras high with rugged
peaks, and torn
By winds and tempests, upward heave a barrier
far and wide.

The winds borne upward, strive to pass this
barrier so high;
And each one pressing 'gainst another, its out-
stretched arms pulls in.
Just then, alas for tiny drop! whose trust in
winds doth lie,
Support removed, down, down, it falls, amid
a tempest's din!

Deep in a crevice of quartz and gold, where
darkness reigns supreme,
Far down in the lead, this poor drop sinks,
will it ever come up again?
Ah no, it can fall, but cannot ascend; it only can
follow the seam,
Till, cleansed of impurities, filtered through
gold, no more of its pride doth remain

For many a week, for many a month, it gropes
its dark way along,
Though never repining, but patiently waiting,
expecting some change to take place:
When, one day it hears, far on in advance, a
noise like a liquid song;
As where water trickles out from a crevice,
into an open space.

Just there, a stream of water pure, receives our
tiny drop;
And, rushing onward in its course, through
canyons wide and deep,
O'er waterfalls and rapids high, without a mo-
ment's stop,
It carries on this drop so clear, far down the
mountain steep.

Down Yuba's Fork, the North I think, it next
doth wend its way,
Past Downieville, and Foster's Bar, and Marys-
ville at last,
Into the Feather, here so muddy with dirt from
mines they say,
Where little drop, no longer clean, among the
filth is cast.

The Capital it cannot see with eyes all filled
with dirt;
So hurries on down to the bay, and through
Carquinez strait,
That, when the tide is running out, escaping
further hurt,
It may get back to sea again, pass through the
Golden Gate.

At home at last, contented now, its changes end-
ed here,
At rest in its old ocean home, whose very
name is Peace,
Borne on by waves where e'er they go, no trouble
now to fear,
Ambition gone new sights to see, its pilgrim-
age doth cease.

TENNIL.

Capping Names—Historical or Biographical.

(A RECREATION.)

We commend the following as an ex-
cellent recreation for the school-room.
Dates may be required in addition to
names, and the exercises be made a pleasant
vehicle for instruction, as well as for
pleasure.

See how long you can thus give a name
and a fact.

First Scholar.—C., Columbus: a discoverer of America.

Second Sch.—S., Scott: a distinguished American general.

Third Sch.—T., Taylor: a president of the United States.

Fourth Sch.—R., Raphael: a great artist.

Fifth Sch.—L., Lincoln: our martyred President.

Sixth Sch.—N., Newton: a distinguished astronomer,

And so on, until neither scholars nor
teachers can think of one name more.

Enigmas on Names of Mountains.

[Contributed by High School Girls.]

1. A personal pronoun—an article—the production of a hen, and a poem—a vowel.
2. The whole, and a band.
3. What "Our Boys" like for luncheon—the syllable of a tone—the support of one who asks pardon.
4. A vehicle—a way—both a pronoun and a feature—an article.
5. A celestial product.
6. A tree, pronoun, or sheep—to scold, or part of a fence.
7. A preposition—A Scotch girl.
8. Combines all the colors.
9. A holy person—a slippery fish—a wonderful nautical instrument—what a man often makes of himself.
10. Not enslaved—a foreign name of itself—a point, drama, displeasure.
11. An abbreviation much used by business firms—a summit—the last thing that kissed the neck of Marie Stuart—a vowel.
12. A seat—part of a torso.
13. A domestic animal—an exclamation—a noise.
14. Saintly—what some hearts are made of.
15. A poet's crown.
16. A boy—a fruit.
17. The first you would not invite the second to do—and the third is not o (*eau?*)
18. The whole tells what some domestic animals do to a family of gnawers.

20. A holy person—a renowned beauty of quite an opposite character.
 21. "No such word!"—an article—let two vowels change places, and a good thing to have.
 22. A species of tea.
 23. A number.
 24. The three first command you to take the life of an adult—male biped—a bird, an aquatic feat.

Anagrams.

A noted woman—a poet.

1. Trap a *leo*, C.

2. We all sin—burn no greens.

ZELL.

Metagrams.

1. Complete I am a Christian grace—behead me, and I signify to unclose—behead me again, and I am a vegetable—curtail me, I am a jump—curtail me again, I am an exclamation—curtail me a third time, I am an aspiration.

2. Complete I am a Christian grace—curtail me, I am frugal—curtail me again, I burn—behead me, and I declare my intention to bind—behead me again, and I command you to do the same.

Answers.

Thomas Moore—Pendennis—Edwin Booth—Edgar A. Poe.

1. Pear. 2. Onyx.

Answers to Enigmas on Titles of Books.

1. Kennilworth. 2. Rugby Junction.

- | | |
|--------------------|------------------------|
| 3. Indiana. | 4. Tale of two Cities. |
| 5. Miss or Mrs. | 6. Kilmeny. |
| 7. Daniel Deronda. | 8. Nameless. |
| 9. Seven Days. | 10. Gala Days. |

Answers to Enigmas on Authors.

- | | | |
|-------------|---------------|----------------|
| 1. Sumner. | 2. South. | 3. Longfellow. |
| 4. Carlyle. | 5. Taylor. | 6. Harte. |
| 7. Helps. | 8. Bryant. | 9. Byron. |
| 10. Holmes. | 11. Parton. | 12. Poe. |
| 13. Adams. | 14. Addison. | 15. Wilde. |
| 16. Usher. | 17. Victor. | 18. Wallace. |
| 19. Webb. | 20. Webster. | 21. Wells. |
| 22. Temple. | 28. Tennyson. | 24. Tennant. |
| 25. Street. | 26. Horne. | 27. Steele. |
| 28. Madden. | 29. Samson. | 30. Sargent. |
| 31. Rome. | 32. Rush. | 33. Priestly. |
| | 34. Paine. | |

Our Garden in Spain.

Will some of our young friends tell us what will come up if we plant the following :

1. Plant a copper coin belonging to Queen Victoria.
2. The raven that croaked the fatal entrance of Duncan to Lady Macbeth.
3. The number four.
4. A shepherd's possessions.
5. A philosopher.
6. A negro funeral.
7. The tide.
8. A crucifix.
9. A dove.
10. One of the insignia of an English magistrate.

THE SCHOOL AND HOME JOURNAL MISCELLANY.

OUR advertising columns will repay our readers a careful examination. Descriptions of every variety of school furniture, apparatus, school and library books, will be found there. Justice to those who aid us by liberal advertising, would induce us to recommend all true and good teachers, all who hold educational progress in regard, to patronize them. We can the better do this, as our advertisers are the leaders in their several branches on the Coast, and can well compete with the best houses in the Union. And the perusal of the advertisements will be found the reverse of uninteresting.

A NEPHEW of Mr. Baggs, in explaining the mysteries of a tea-kettle, describes the benefits of the application of steam to useful purposes. "For all which," remarked Mr. Baggs, "we have principally to thank—what was his name?"

"Watt was his name, I believe, uncle," replied the boy.

THE house of A. L. Bancroft & Co., by their enterprise and business tact, are doing much to advance the educational progress of the Coast. Their advertisement is worthy of attention.

"I make it my point, madam, to study my own mind," said a gentleman to a lady who had exhibited some surprise at an opinion he expressed. "Indeed!" she replied, "I didn't suppose you understood the use of the microscope."

THE *Popular Science Monthly* is one of the very best periodicals in the world. Its corps of contributors comprise the ablest minds known to science and literature. It is doing a great and noble work in popularizing science, and leav-

ing the battlements of old superstitions. Teachers will be greatly profited by this admirable periodical, and we earnestly recommend it to all.

A MAN innocently spoiled a sermon and prayer by exclaiming, while the tears rolled down his cheeks, "Lord, Thou knowest I have been an awful sinner—the chief among ten thousand and one altogether lovely."

MATHIAS GRAY is well known from Washington Territory to Mexico, and from the Sierras to the Pacific. His new establishment on Kearny Street near Post, as complete in every detail as any music house in the Union, is a credit to the Coast. Mr. Gray is entitled to the patronage of educators, for no one is doing more to educate public taste.

A SCOTCH minister was once busy catechising his young parishioners before the congregation, when he put the usual first question to a stout girl whose father kept a public-house: "What is your name?" No reply. The question having been repeated, the girl replied, "Nane o' yer fun, Mr. Minister; we ken my name weel eneuch. D'y'e no say when ye come to our house on a night, 'Bet, bring me some ale?'" The congregation, forgetting the sacredness of the place, were in a broad grin, and the parson looked daggers.

ONE of the most liberal firms on the Coast, is that of A. Roman & Co. Identified since an early day with the cultivation of the public taste, the publishers, at one time, of the *Overland Monthly*, always feeling more than a general interest in education, the house of A. Roman & Co. is a general favorite with teachers.

A LADY says it is no worse to encircle a lady's waist with your arm in a ball-room than to kiss

your friend's sister on the back stairs. No worse! Why, it is not half so good.

THE Mason & Hamlin Organs are deservedly popular, not only for church, but for school use. The same firm, Kohler, Chase & Co., whose advertisement appears in the JOURNAL, have lately brought out an excellent, moderate priced piano—the Emerson—for school use.

MOST teachers already know that the house of Payot, Upham & Co. has removed to 204 Sansome Street. Every three months, their special advertisement appears in the JOURNAL. They have always displayed great liberality in their dealings with teachers.

THE country singing schools are closing up their affairs, and the young man who hasn't settled the question with her, will have to hold over till another winter.

WE call special attention to the advertisement of the Berkeley Land Association. Teachers very seldom have such opportunities to get property in a locality where the future promises such great material progress.

"WOMEN," remarked the contemplative man, "are as deep as the blue waters of yonder bay." "Ay, Sir," rejoined the disappointed man, "and as full of craft."

THERE is scarcely a township in the State where some of Gilbert & Moore's School Furniture is not used. Their's is a liberal, progressive house. They are ever willing to advance educational interests, whether it is directly in the line of their trade or not.

EDITING a paper is like carrying an umbrella on a windy day. Everybody thinks he could manage it better than the one who has hold of the handle.

JOHN G. HODGE & CO.,
WHOLESALE AND IMPORTING
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Very Reasonable Rates and on Easy Terms.

THE INSTALLMENT PLAN

Adopted by this Association is especially adapted to those who receive a monthly salary. By paying a few dollars monthly, a nice homestead is soon secured. Let all remember that the

Olapest and Best Property

Can be bought on the easiest terms by calling on

S. A. PENWELL,

Secretary of Association,

717 Montgomery Street,

San Francisco, Cal.

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717 Montgomery St., San Francisco, Cal.

These Maps have been adopted in the Public Schools of San Francisco. Two Hundred have been sold in this city.

THE PACIFIC SCHOOL AND HOME JOURNAL.

VOL. I.

SAN FRANCISCO, AUGUST, 1877.

No. 6.

THE SEQUOIA GIGANTEA.

What have been its relations to climate, to soil, and to other coniferous trees with which it is associated? What are those relations now? What are they likely to be in the future?

BY JOHN MUIR.

The climatic changes in progress in the Sierra, bearing on the tenure of tree life, are entirely misapprehended, especially as to the *time*, and the means, employed by Nature in effecting them. It is constantly asserted, in a vague way, that the Sierra was vastly wetter once than now, and that the increasing drouth will of itself extinguish Sequoia, leaving its ground to other trees supposed capable of flourishing in a drier climate. But that Sequoia can and does grow on as dry ground as any of its present rivals, is manifest in a thousand places. "Why then," it will be asked, "are Sequoias always found in greatest abundance

in well-watered places, where streams are exceptionally abundant?" Simply because a growth of Sequoias always *creates* those streams. The thirsty mountaineer knows well that in every Sequoia grove he will find running water, but it is a very complete mistake to suppose that the water is the *cause* of the grove being there; for on the contrary, the grove is the entire cause of the *water* being there. Drain off the water, if possible, and the trees will remain; but cut off the trees, and the streams will vanish. Never was cause more completely mistaken for effect than in the case of these related phenomena of Sequoia woods and perennial streams, and I confess that at first I shared in the blunder.

When attention is called to the method of Sequoia stream-making, it will be apprehended at once. The roots of this immense tree cover the ground, forming a thick, continuous, capacious sponge, that absorbs and holds back the rains and melting snows, only allowing them to ooze and

flow gently. Indeed, every fallen leaf and rootlet, as well as long clasping root, and prostrate trunk, may be regarded as dams; hoarding the bounty of storm clouds, and dispensing it as blessings all through the summer, instead of allowing it to go headlong in short-lived floods. Evaporation is also checked by the dense Sequoia foliage to a greater extent than by any other Sierra tree, and the air is entangled in masses and broad sheets, that are quickly saturated; while thirsty winds are not allowed to go sponging and licking along the ground.

So great is the retention of water in many places in the main belt, that bogs and meadows are created by the killing of the trees. A single trunk falling across a stream in the woods, often forms a dam 200 feet long, and from ten to thirty feet high, giving rise to a pond, which kills the trees within its reach. These dead trees fall in turn, thus making a clearing, while sediments gradually accumulate, changing the pond into a bog, or meadow, for a growth of carices and sphagnum. In some instances, a chain of small bogs or meadows rise above one another on a hillside, which are gradually merged into one another, forming sloping bogs or meadows, which form very striking features of Sequoia woods; and since all the trees that have fallen into them have been preserved, they contain records of the generations that have passed since they began to form.

Since, then, it is a fact that thousands of Sequoias are growing thrifitly on what is termed dry ground, and even clinging, like mountain pines, to rifts in granite precipices; and since it has also been shown that the extra moisture found in connection with the denser growths is an *effect* of their presence, instead of a *cause* of their presence—then the notions as to the former extension of the species, and its near approach to extinction, based upon its sup-

posed dependence on greater moisture, are seen to be erroneous.

The decrease in the rain and snowfall since the close of the glacial epoch in the Sierra is much less than is commonly guessed. The highest post-glacial water-marks are well preserved in all the upper river channels, and they are not greatly higher than the spring flood-marks of the present, showing conclusively that no extraordinary decrease has taken place in the volume of post-glacial Sierra streams since they came into existence. But in the meantime, eliminating all this complicated question of climatic change, the plain fact remains that the *present rain and snowfall is abundantly sufficient for the luxuriant growth of Sequoia forests.* Indeed, all my observations tend to show that, in case of prolonged drouth, the sugar-pines and firs would die before Sequoia, not alone because of the greater longevity of individual trees, but because the species can endure more actual drouth, and make the most of whatever moisture falls. Only a few of the very densest fir and pine woods felt and weave a root-sponge sufficiently thick and extensive for the maintenance of perennial springs, while *every* Sequoia grove does.

Again, if the restriction and irregular distribution of the species be interpreted as a result of the dessication of the range, then, instead of increasing as it does in individuals towards the south, where the rainfall is less, it should diminish.

If, then, the peculiar distribution of Sequoia *has not* been governed by superior conditions of soil as to fertility or moisture, by what *has* it been governed?

Several years ago I observed that the northern groves, the only ones I was then acquainted with, were located on just those portions of the general forest soil-belt that were first laid bare towards the close of the glacial period, when the ice-sheet began to break up into individual glaciers. And

last summer, while searching the wide basin of the San Joaquin, and trying to account for the absence of Sequoia where every condition seemed favorable to its growth, it occurred to me that this remarkable gap in the Sequoia belt is located exactly in the path of the vast *mer de glace* of the San Joaquin and King's River basins, which poured its frozen floods to the plain, fed by the snows that fell on more than fifty miles of the summit. I then perceived that the other great gap in the belt, forty miles wide, extending between the Calaveras and Tuolumne groves, occurs exactly in the pathway of the great *mer de glace* of the Tuolumne and Stanislaus basins, and that the smaller gap between the Merced and Mariposa groves occurs in the pathway of the smaller glacier of the Merced. *The wider the ancient glacier, the wider the corresponding gap in the Sequoia belt.*

Finally, pursuing my investigations across the basin of the Kaweah and Tule, I discovered that the Sequoia belt attained its greatest development just where, owing to the topographical peculiarities of the region, the ground had been most perfectly protected from the main ice-rivers, that continued to pour past from the summit fountains, long after the smaller local glaciers had been melted.

Beginning at the south, the majestic, ancient glaciers are seen to have been shed off right and left down the valleys of Kern and King's Rivers by the lofty protective spurs, outspread embracingly above the warm Sequoia-filled basins of the Kaweah and Tule. Then next northward comes the wide Sequoia-less channel of the ancient San Joaquin and King's River *mer de glace*; then the warm, protected spots of Fresno and Mariposa groves; then the Sequoia-less channel of the ancient Merced glacier; next the warm, sheltered ground of the Merced and Tuolumne groves; then the Sequoia-less channel of

the grand, ancient *mer de glace* of the Tuolumne and Stanislaus; and lastly, the warm old ground of the Calaveras groves.

What the other conditions may have been that enabled Sequoia to establish itself upon these oldest and warmest portions of the main glacial soil-belt, I cannot say. I might venture to state, however, in this connection, that since the Sequoia forests present a more and more ancient aspect as they extend southward, I am inclined to think that the species was distributed from the south; while the sugar-pine, its great rival in the northern groves, seems to have come around the head of the Sacramento Valley, and down the Sierra from the north. Consequently, when the Sierra soil-beds were first thrown open to pre-emption, on the melting of the ice-sheet, Sequoia may have established itself along the available portions of the south half of the range, prior to the arrival of the sugar pine, while the sugar pine took possession of the north half, prior to the arrival of Sequoia.

But, however much uncertainty may attach to this branch of the question, there are no obscuring shadows upon the grand general relationship we have pointed out between the present distribution of Sequoia and the ancient glaciers of the Sierra. And when we distinctly bear in mind the great radical fact that *all* the present forests of the Sierra are young, growing on moraine soil recently deposited; and that the flank of the range itself, with all its landscapes is new-born, recently sculptured and brought to the light of day from beneath the ice mantle of the glacial winter, then a thousand lawless mysteries disappear, and broad harmonies take their places.

But although all the observed phenomena bearing on the post-glacial history of this colossal tree, point to the conclusion that it never was more widely distributed on the Sierra since the close of the glacial epoch—

that its present forests are scarcely past prime, if indeed they have reached prime—that the post-glacial day of the species is not half done—yet, when from a wider outlook, the vast antiquity of the genus is considered, and its ancient richness in species and individuals; comparing our Sierra giant and *Sequoia sempervirens* of the coast, the only other living species, with the twelve fossil species already discovered, and described by Heer and Lesquereux, some of which seem to have flourished over vast areas around the polar zone, and in Europe, and our own territories, during tertiary and cretaceous times,—then indeed it becomes plain that our two surviving species, restricted to narrow belts within the limits of California, are mere remnants of the genus, both as to species and individuals, and that they probably are verging to extinction. But the verge of a period beginning in cretaceous times may have a breadth of tens of thousands of years, not to mention the possible existence of conditions calculated to multiply and re-extend both species and individuals. This, however, is a branch of the question quite beyond the present discussion.

In studying the fate of our forest king, we have thus far considered the action of purely natural causes only; but unfortunately man is in the woods, and waste and pure destruction are already making rapid headway. If the importance of forests were at all understood, even from an economic standpoint, their preservation would call forth the most watchful attention of government. In the meantime, however, scarce anything definite is known regarding them, and the simplest groundwork for available legislation is not yet laid, while every species of destruction is moving on with accelerated speed.

In the course of last year's explorations, I have found no less than five mills located on or near the lower edge of the Sequoia belt, all of which saw more or less of the

"big tree" into lumber. One of these, located on the north fork of the Kaweah, cut over 2,000,000 feet of big tree lumber last season. Most of the Fresno group are doomed to feed the mills recently erected near them, and a company has been formed to cut the magnificent forest on King's River. In these milling operations, waste far exceeds use; for after the choice young manageable trees on any given spot have been felled, the woods are fired to clear the ground of limbs and refuse, with reference to further operations, and of course most of the seedlings and saplings are destroyed.

These mill ravages, however, are small as compared with the comprehensive destruction caused by "Sheepmen." Incredible numbers of sheep are driven to the mountain pastures every summer, and their course is ever marked by desolation. Every wild botanic garden is trodden down, the shrubs are stripped of leaves, as if devoured by locusts, and the woods are burned. Running fires are set everywhere, with a view to clearing the ground of prostrate trunks, to facilitate the movements of the flocks, and improve the pastures. The entire forest belt is thus swept and devastated from one extremity of the range to the other, and with the exception of the resinous *Pinus contorta*, *Sequoia* suffers most of all. Indians burn off the underbrush in certain localities to facilitate deer-hunting. Mountaineers carelessly allow their camp-fires to run, so do lumbermen; but the fires of the sheepmen, or *Muttoneers*, form more than ninety per cent. of all destructive fires that range the Sierra forests.

Some years ago, a law was enacted by the California legislature with special reference to the preservation of *Sequoia gigantea*, under which the cutting down of trees over sixteen feet in diameter became illegal; but, on the whole, a more absurd and short-sighted piece of legislation could

not be conceived ; for all the young trees, on which the permanence of the forest depends, may be either burned or cut with impunity, while the old trees may also be burned provided only they are not cut !

It appears, therefore, that notwithstanding our forest king might live on gloriously in Nature's keeping, it is rapidly vanishing before the fire and steel of man ; and unless protective measures be speedily invented and applied, in a few decades, at the farthest, all that will be left of *Sequoia gigantea* will be a few hacked and scarred monuments.

THE CHILD-GARDEN.

BY EDWARD EGGLESTON.

There stood in a company of Pestalozzian teachers at Frankfort one evening, about the beginning of this century, a young architect who had been tossed about in life a good deal, and who had not yet found his mission. He had thought deeply on educational subjects, because it was his nature to think deeply on any subject in hand, and because it was his own bitter misfortune to have been badly educated. A motherless child, neglected by his father, (who was a busy clergyman), and closely shut up within a garden, his earliest years had been years of unsatisfied longing, and some persecution. His education had been of the most desultory sort. Like many other gifted children, he had not succeeded in shining among the little poll-parrots, who recited glibly, then as now, the rote-learned lessons which they did not understand. He was regarded as too stupid to become a scholar. He had been sent apprentice to a forester, had read widely, had made his way into the University, and had failed there for want of money. Now he had come into a small inheritance, and was going to make an architect of himself. Among those teachers who been pupils of Pestalozzi—that grand old Swiss enthusi-

ast—he heard eager discussions of methods of education. At last he found himself among those who, like himself, had reasoned upon that subject. When each had given his views, the young architect began to speak, and out of his solitary thinking upon his own hard experience, he brought forth ideas, so fresh, so original, and so just, that the Pestalozzians were startled to find in the stranger of another profession a master in their own. As he proceeded, the host—one Gruener, a school principal—smote him on the shoulder, crying out in his enthusiasm : “ Froebel, you are meant for nothing else than to be a teacher Will you take a place in my school ? ”

And the young man gave up his plans of becoming a builder of churches and mansions. He became a teacher of little children, to whom he showed the art of building houses of blocks. For this young man, who was thus swept into the line of his destiny by a chance conversation—if there be any such thing as chance in the life of a true man—was Friedrich Froebel, the founder of the Kindergarten, the most profound student of the science of childhood, and the greatest master of the art of teaching which this century, or perhaps any century, has seen. His fame has spread but slowly, for the world has not yet learned that the chief work of education is at the foundation. Yet, by a steady progress, the Froebellian principles and methods are coming to pervade Germany, France, and the United States, and they have already taken root deeply in England and Italy.

Froebel had been, like many another earnest man, hesitant and undecided. But, from the hour in which he began to teach, there was no longer the shadow of a doubt in his mind. He had found his mission. “ I am a bird in the air, a fish in the sea,” he writes to his favorite brother. Nevertheless, he soon grew ambitious to learn more of his profession. He went

for two weeks to Yverdun to witness the methods of the grand old master, Pestalozzi, who was then beginning his third futile experiment in founding a school. Froebel accepted a place as a private teacher, and, already having in his mind the germs of that method which did not come to maturity until a quarter of a century later, he mingled play-architecture and gardening with his teaching. But he soon gave up teaching, to put himself once more under the training of the old master at Yverdun. Clearly as he appreciated the defects and incompleteness of Pestalozzianism, he had learned by this time that, no matter what a man's original genius may be, he must build on what has been done by those who have gone before. He stayed two years with Pestalozzi; thence he went to Berlin and Gottingen to study. He gave special attention to the teachings of Fichte and Schleiermacher. The abstruse speculations of the one, and the intellectual activity, mingled with pious aspirations, of the other, were well calculated to impress deeply a mind such as Froebel's. It was his purpose to ground his teaching upon the broad foundation of a thorough knowledge of human nature, and therefore upon the deepest and soundest philosophical basis. I doubt not, however, that it was Fichte who spoiled Froebel's literary style, and gave him the fashion of going down forty fathoms deep in abstract speculation to reach his generalizations. He is a singular paradox, this man Froebel, who knew better than any other that ever lived how to adapt himself to the understandings of little children, but who wrote out his educational theories in so cloudy and so mystical a fashion, that his most ardent admirers prefer to take him, as most people do Swedenborg, at second hand. Happily, the Baroness Marenholtz-Bulow, his nephew, Karl Froebel, and other able disciples, have expounded and popularized the theories

which the master, ever intent on reaching the ultimate analysis of truth, had expressed too darkly for popular acceptance.

We next find Froebel bearing arms in that great German uprising of 1813 which delivered the Rhine from the French. But it was not exactly as a patriot, but as a pedagogue, that he went to war.

"I would be ashamed," he says, "to stand before my pupils and tell them that I did not go when I was wanted."

Afterward he was an assistant in the Museum of Mineralogy, studying nature on its physical side. He was offered a Professorship of Mineralogy, but at this moment came the death of his beloved elder brother, Christopher, and Friedrich Froebel, in a noble and characteristic enthusiasm, cast all his scholarly pursuits aside and said :

"I must be a father to the orphans that Christopher left."

And so, with Christopher's children, and with the children of his brother Christian, he began the school at Keilhau.

Enthusiasm is the most contagious of diseases. Many members of the Froebel family, catching the spirit of Friedrich, taught with him. Christopher Froebel's widow and, later, Christopher's son Ferdinand, and Langethal and Middendorf—old army friends of Froebel's and relatives by marriage, and Barup, who also intermarried with the Froebels—fell to teaching also. Far and near these noble people were known as "the teaching family."

It was a characteristic of the Froebels that they made teaching a religion. They did not accumulate money in the time of the school's prosperity; they joyfully endured poverty in the periods of adversity and persecution which the liberal tendencies inevitable in good teaching brought upon them. Froebel mentions that in his journeys he had slept in the fields, with his portmanteau for pillow, and his umbrella for tent. After years of prosperity, the

school at Keilhau suffered reverses, and had become almost extinct, and he had been thwarted in new attempts by the aristocracy in Germany, and the Jesuits in Switzerland. Froebel then started a school at Willisau, and the loving Barup came over from Keilhau, as he says, "with a threadbare coat, with ten thalers in my pocket, and riding the shoemaker's ponies."

Most of the life of Froebel was spent in approaching the great work which he was set to perform. Pestalozzi did not begin to put his theories into practical experiment until he was fifty-four years of age, and Froebel was a year older when he brought forth his ripest fruit in the institution by which he is destined to be the benefactor of little children for all time to come. For, whatever may be the modifications which the experience and new discoveries of the future may produce, Froebel must ever be accounted the founder of true primary education, and he who builds hereafter must build upon his groundwork.

At fifty-five years of age Froebel saw the "Froebelites" very prosperous. The Keilhau school had recovered from its difficulties and was flourishing; Willisau was succeeding under Langethal, and the master now intrusted his orphan school at Burgdorf to his nephew Ferdinand. New ideas were fermenting within him. He said: "All the early days of the child's life run to waste. I will redeem them." The plan was the outgrowth of a life-time of profound study and practical experience.

He went to Berlin to look into that institution for very little children which the Germans, with characteristic prodigality of name, style the "Klein-kinder-bewahr-anstalten"; that is to say, an institution for the care of little children. The French translate this great name by a monosyllable, and call the same institution a "Creche"—in other words, a "Crib." By this name it is known where it has

been introduced into England and America, for our language never makes a name where it can borrow one. The Creche is a place where the little children of working-women are received in the morning and cared for during the day. Froebel's idea was to make the amusements of children a source of discipline and instruction, systematized and based upon his own profound knowledge of child-nature.

I come now to the great difficulty which lies before every writer of a popular article on the Kindergarten. If I merely describe the Kindergarten from the outside, it seems but a congeries of plays and occupations admirably adapted to interest and amuse a child, but having little of serious benefit in them. If I attempt to enter into the philosophy of it, I fear the reader will think me abstruse. For every part of the institution which Friedrich Froebel founded and called the "Child-Garden," was based upon principles deduced from the careful study of childhood. He was thoroughly imbued with the spirit of Pestalozzi's maxim: "We shall only invent the art of teaching after we have discovered the science of childhood."

Froebel wished to begin with the child in its mother's arms. He wrote "Mother's Cosetting Songs," little rhymes to be sung and accompanied with action. The idea was taken from such little child's plays as our own familiar

"Pat a cake, pat a cake, baker's man!
Bake me a cake as fast as you can!"

I hear you say: "What! inject instruction into the artless plays of a baby? What an outrage?" But does not a baby learn? Does he not learn to use his legs by kicking, his hands by grasping and clapping, his vocal organs by crying or crowing? When he is older he learns to walk, to observe, to name things. He is learning ceaselessly. Now, the outrage of a primary school is not that the child is not a-learning, but that he is put to learn things

not suited to his years, and in ways that are in direct violation of the laws of his nature. Learn he must. One could inflict few punishments more grievous than to forbid a little child to learn. The question is, what shall he learn and how?

Trust him to nature? That means to leave him to chance. And if chance instruction, or "the teaching of nature," is so much better than wise guidance, why not make him a savage at once? If you show him the best road to his goal, why not show him the road when he is younger? The superstition that a child's mind should be neglected in its first learning, is a natural reaction from the rote-teaching of the primary school.

Froebel swept away, once for all, the use of books in teaching a child under seven years of age. The Kindergarten knows no alphabet but that of things. Letters and words are abstractions, and infancy can only reach the abstract by progressive steps.

A little child, said Froebel, loves activity, from its earliest moment motion is pleasant to it. So, Froebel never exacted quiet, but demanded of the child what it is his joy to give, action. Pestalozzi gave object lessons, by which he taught the child through his instinct of curiosity. It was a great advance upon the teaching that had gone before. Froebel gave, not object lessons, but *action* lessons in which the child not only *saw*, but produced. In this he was a whole age in advance of Pestalozzi. In that vein of mingled philosophy and poetry so characteristic of him, Froebel says: "The world is sick of thinking, the only cure is doing." A child who is stupid enough in school is bright and active at his plays, full of mental as well as of physical energy. The school, by its false method, benumbs his powers and makes the bright boy a lazy dunce. "Let us try," says Froebel, "to have the child embody all its perceptions

in actions; only thus can laziness and inertness be overcome from the beginning."

The Kindergarten is not a primary school. Froebel called the schools for little children "Hot-house-forcing institutions." He describes the purposes of the Kindergarten to be to "take the oversight of the child before he is ready for school, strengthening his physical powers, training his senses, and employing his mind; and to make him thoughtfully acquainted with nature and man, to guide his heart and soul aright, leading to the Origin of all life and to union with Him."

His whole method founded itself upon the child's nature. A child is social, therefore he must have companions and not be left to the solitude of his home. He is active and fond of making—keep him busy, and help him to produce things. He loves the earth—give him a garden patch. He is an artist—give him music, imitative action, and other appropriate means of expression. He is curious—teach him to think and discover. He is religious—lead him to trust in God. On this last he said: "God-trust, rock-firm God-trust, has died out of the world. The Kindergarten shall bring it back so that the next generation of children shall be God's children."

Here is work for a child, not against the grain, but with it; not in violation of God's law in the child's nature, but in loving obedience to it. Instead of punishing the lad who makes pictures upon his slate, the loving Kindergarten master puts him to making pictures, and gently shows him how to produce with his fingers the pictures that float in his brains. Instead of rebuking his curiosity and constructiveness, the Keilhau schoolmaster yokes them to his purpose. Instead of checking the child's sweetest impulse—the impulse to play—he consecrates it. Jean Paul has said: "Play is the child's first poetry." It was a wise and poetic saying

of a poet. But Froebel was not a poet, but a schoolmaster and a philosopher. He went deeper, and said the supreme word about play when he call it "the first work of childhood." It is the child's chief business. Use play to serve the ends of education you may, but to do away with it is the unpardonable sin of the prevalent method of teaching.

It was not in theory alone, however, that Froebel advanced beyond his predecessors, but in the practical devices by which he realized his theory. I have spoken of the "Mother's Cosseting Songs"—songs accompanied by gestures. Let us come now to the entrance of the child into the Kindergarten at three years of age; for, since a child craves society, he must have fellows of his own age. Froebel rejected the idealism which insisted that a child must be taught only at home. Few mothers are qualified to teach children, few have the leisure, and no homes can satisfy the child's love of society.—*Scribner's Monthly.*

READING BY THE WORD METHOD.

BY MRS. E. F. HATCH.

It seems strange that we have been so long in learning the *natural* method of teaching reading, when scarcely a family but has its little beginner in talking. Every word it learns is a source of wonder and delight to each member of the family, who dwell upon and repeat it as if no one had ever learned to talk before.

With all this attention and minute study, why did not some of baby's admirers learn before that the printed should be taught in the same way as the spoken language? Let us briefly study its method: The little linguist first learns the names of the most familiar objects, not by any analysis, but as a whole. Who would think of drill-

ing him on the sounds of *c*, *a*, and *t*, separately, before attempting to teach him the name of his pet playmate? The very imperfect way in which he sounds the "c" but adds a new charm, and it matters but little to his teacher, as long as he can express the idea intelligibly. Yet sounds have even a closer relation to the spoken language than letters have to the printed.

Our baby teacher shows himself from the first a grammarian, intuitively selecting from the words he hears in the conversations around him, the most important words of the language,—the nouns, verbs and adjectives, giving us, if we will but study his plan, a basis not only of teaching him reading, but in later years, Grammar also.

He learns most readily words spoken with emphasis, as a swearing parent often finds to his sorrow. He has naturally an appreciation of elocution, which the Word Method, rightly taught, carries on; but of which the dull, old-fashioned method of teaching robs him at once.

The first days of school life should be as easy and natural a transition from home as the teacher can possibly make it. Think of being confronted at first by twenty-six unknown, arbitrary characters, whose names convey no idea whatever, but add their bewilderment to the already strange feeling of beginning school. But when after a familiar home-like conversation, putting the little one at ease, and gradually leading to some familiar objects, as a dog, cat, or boy, or by the use of pictures as introductions, when shown the printed word and told that it stands for the object and the spoken word he already knows so well, he accepts it naturally and unquestionably. It is not a combination of unknown, strange characters to him, but simply an idea. The rapidity with which he will master words taught in this manner is astonishing.

He will have finished his first reader by

the time a companion who has started abreast with him, but by the Spelling Method, is but half through; and will be as good a speller of the first half of his reader as his companion, allowing the same time per day for his reading and spelling lessons, taught separately, as the other had for them combinedly.

He will be an easier, more expressive reader on finishing his first reader than a child who is taught by the old method, is on finishing his third. A review is scarcely necessary; only a pleasant, rapid re-reading of the lessons, in which four pages can be read in the time it takes the scholar who spells out his words as he goes along, to read half a page. He is such a master of the first reader words that he takes his second reader almost as an old friend. Study is required only on the new words, and were he to begin it at the same time as another child who is still "spelling out" the new words, he will finish it in one-quarter of the time; and so on through the list of readers, the ratio of comparative progression increasing ever, geometrically.

We never thought, in the days of the Spelling Method, of having beginners read with expression. In fact, it would have been simply ridiculous, for all the elocutionary beauty of a sentence is lost if a child must stop in the middle to spell a word; and unless he knows the word *as a whole*, at first sight, he *must* stop.

The little Word Method pupil reads:

"And quick as a flash, whiz he went."

His friend, the speller:

"And —— q u i c k, quick as a f l a s h,
flash, w h i z he went."

He thereby loses all the quickness of the word *quick*, and force of the word *whiz*.

But now we expect the first reader read with as much spirit and expression as the fifth; and it is not too much to expect; for if the child is never allowed to fall into slow, drawling, hesitating habits, there is

no break from the naturalness of his talking to that of his reading.

To teach the Word Method successfully, several things are necessary: One, that the words first given should possess *individuality*; they should be of different length, and dissimilar in appearance. McGuffey's first reader, written when the old method of teaching reading was alone used, is the poorest book that could be employed in the Word Method.

Words all of the same length; whole lines of similar words, some of which, although small in letter, are beyond the child's comprehension; and words that he never hears or uses, confront him in the manner as would an assemblage of children, all nearly of a size, dressed uniformly, and with heights graded. I can appreciate the sensation perfectly, being accustomed when a child, to accompany my father every Sunday morning, when he delivered a lecture to over two hundred children of the Cincinnati Reform School. They were arranged according to height, and dressed in uniform. Sitting in front of them, it was weeks and weeks before I could see any difference in the faces, or recognize any individuality, although each had his accustomed seat.

Here is the Reform School of the First Reader, page 52:

air	leak	licks	eating.
fair	beak	ricks	seating.
lair	peak	kicks	beating.
hair	weak	picks	heating.
pair	freak	nicks	healing.
stair	speak	wicks	pealing.
chair	streak	sticks	stealing.

If a pupil is to spell over each word, it matters little what words he has; similar ones are better for a mechanical, parrot-like system; but if each one is to embody an idea, such an assemblage is only confusion. He should have familiar words only, at first; even words he cannot at once learn to spell. He will find no trouble

whatever in learning from the first such words as "pencil," "Charley," "pretty," "ugly" and "school," although it should be several months before he attempts to spell them. When he has quite a list of words at command, new ones similar to those already learned, may be safely introduced. His thorough knowledge of those he has already had, makes them measures of comparison for similar words. His eye, now accustomed to the word form, now recognizes the slight difference of the new ones, which at first would have been impossible.

The drift of the Word Method is to treat spelling as separate from reading or any other study, as arithmetic, or music, for example. To be a good reader, does not make it any more necessary to be a good speller than to be a good mathematician. Both are desirable, but not one at the expense of the other.

It is more reasonable to combine writing and spelling, since all the practical use we make of spelling is written. A pupil who can glibly spell many pages of different words, when writing a letter will misspell the simplest and commonest words, unless he has been particularly drilled in Written Spelling and Dictation.

The Word Method, carried out, means never to undertake the reading of a lesson until every word has been mastered. The main bulk of the words having been learned before, study only is required on the new ones, lists of which precede the reading exercise, or are marked with crosses.

The Sentence Method takes a step farther than the Word Method. It gives the beginner a short, simple sentence at first, which has resulted from the familiar conversation between the teacher and the new pupils. This is naturally read by the teacher, and repeated by the class and individuals, the teacher pointing to the words as they read. This repetition, accompa-

nied by the pointing, soon enables them to pick out the words. These words once learned, the next lesson repeats the same sentence form, substituting a new word for one already known. So by degrees the vocabulary and sentence form increase together. Its aim is to secure from the first, to each word, its relative importance in the sentence: to arrive at expressive reading in the first reading.

The articles are never allowed to be unnaturally separated from their nouns. It is always "a man," "the boys," "a new book," as by other methods,

"Of," "and," "with" and other connectives take their proper places from the first, simply as bridges over which the thought passes quickly and unemphatically to the main words of the sentence.

Unconsciously, to the little reader, the elocutionary and grammatical ideas he showed in his babyhood, when first learning to talk, are developed and led on to higher fields.

Drudgery, indeed, it might have been called, to teach beginners to read by the old method; but under the new light, and especially that of the Sentence Method, it is one of the most interesting and charming departments of Education.

AN ADDRESS

On the Twenty-fifth Anniversary of the Founding of the Denman School.

BY MRS. SARAH M. CLARKE.

Welcome, kind friends, inspirers of my lay,
Thrice welcome to these classic halls to-day.
The Graduating Class of Seventy-Six,
With the bright record of the Past to fix
The soaring fancy, gives a loftier cheer,
And warmer welcome, this Centennial year.

Next to our parents, and our God above,
Our noble teachers claim our warmest love;
He forms the powers of body and of mind;
That in mysterious union are combined;
Minerva-like, they touch the form of clay,

When lo ! the mighty powers that dormant lay,
Kindle beneath the fire they win from heaven,
And thus a fullness to our youth is given ;
Thus we attain a larger growth of soul,
And swifter progress toward a higher goal.

Honored be he, our Teacher, Guide, and Friend;
May Heaven's rich blessings on his path descend.
The pioneer of learning on the shore,
Where others came to seek but golden ore.
The benefactor of our infant State.
His name shall live among the good and great.

As mind to mind imparts its highest truth,
The world revives its ere-renewing youth
In finer types of being—thus we trace
A nobler future for our erring race.
Each generation treading on the heel
Of generation, sends a grander peal,
From the great March of Ages moving on,
To blend the interests of mankind in one.

The sum of all the wisdom, and the lore
Of all the generations gone before,
Forms a proud pyramid, on which may stand,
The youngest generation of our land !
How vast a height of knowledge to attain !
How grand a point of view for heart and brain !
Ay, truly it was written in the Past,
The *last*, the first shall be, the *first*, the last !

The youth who kindles with electric fire,
May not be wiser than the aged sire,
Who with a calm and philosophic grace,
To his advancing manhood, yields his place ;
But if the son, to knowledge of the sage,
Add deeper interest in the present age,
A stronger will to do, and livelier zeal,
That flashes from his soul like burnished steel,
Then will the quickened life which he imparts,
Strike answering sparks of flame from other hearts ;
Kindling anew the watch-fires burning low,
Until the moral world is all aglow !

Let others boast of what the world *has been* ;
Of knowledge lost, of arts we have not seen—
Of splendid Rome, in the Augustan age,
Of glorious Greece, on the historic page,
Egypt's gigantic monuments that rise,
In solitary grandeur towards the skies,—
I turn from ancient days, and greatness flown,
With kindling admiration to our own,
And thank my God at every fresh review
Of the *old* World, that I live in the *New*.

Turn o'er the leaves—compare the Now and Then;
Behold the sword has yielded to the pen !

The savage principle that Might makes Right,
To Christian precept—Right alone is Might.
Then, governments were narrow in their plan,
Now, they are based upon the Rights of Man.
Then, Science had her martyrs who sublime
Our human nature for all coming time,
Now, she is worshipped on the bended knee,
For through *her* laws we learn of Deity.
Religion then could want its thousands slain,
To trammel free-born thought—thank God in
vain—

None, now are made to fear for conscience sake—
Imprisonment, the torture, and the stake.
Then cumbrous chariots rolled in state along,
On ponderous wheels amid the ignorant throng—
Bearing stern rulers clad in coats of mail,
But now, the people's coach with its long trail
Of fire-lit clouds, takes up the quickened throng,
And fleeter than the wind, bears them along—
Then sluggish barges hugged a leeward shore,
Forced onward by the boat-men's clumsy oar—
Now Commerce spreads her wings on every sea,
And rides the storm-tost billows gallantly.

Then human muscle toiled for meagre gain,
At the expense of Life, and Heart, and Brain,—
But now the human brain—most wondrous grace !
Supplies with ease the weary muscles' place—
And man redeemed, no more a servile clod—
A slave to labor—rises from the sod,
To hold sublime companionship with God.

Of Egypt, Greece first learned her alphabet ;
And Rome of Greece, when her bright sun had
set ;

And Britain borrowed light from ancient Rome,
When her slow-dawning day at length had come,
But for America, the youngest born
Of all the nations that the earth adorn,
The favored land of Heaven, it hath remained,
To borrow *all* the light that all had gained.

And for this crowning glory of the day,
What shall our land in gratitude repay ?
Our noble steam-ships shall transfer rich stores
Of new inventions to those distant shores,
Which shall from servile toil their children free—
And wake their ancient love of Liberty.—
We'll send them—ay, a modern thunderbolt,
The swift steam-car upon its sounding track ;
To wake their old ambition from its grave !
We'll teach them how to tame the wind and wave,
How Franklin from on high, the lightning brought,
Which Morse has made a messenger of thought—
We'll send them out, a model Public School,
To show how freemen's sons are trained to rule.

Our noble deeds their ancient shrines shall crown;
Our words of cheer shall fall in blessings down;
Our thoughts of love shall float upon the gales,
That wake the echoes of their classic vales.

Thus from our ocean-cradled continent,
We shall return higher enlightenment,
And, link by link, the Brotherhood of man,
Will thus be welded on the Christian plan,
As Heaven ordains, until all lands are free,
And the wide world, a vast Republic be!

SOME HINTS ABOUT DRAWING.

MRS. E. P. BRADLEY.

To determine the character and amount of drawing that should be taught in the public schools, one should know what drawing really is, and what its applications are. Many persons not possessing such knowledge are apt to undervalue both practically and educationally the art of drawing. The opinion, for example, is not uncommon that drawing is only the representation of objects which already exist; whereas for practical purposes, it must deal mainly with the representation of objects which do not exist, but are to be made.

There are five distinct departments of drawing:

1.—Drawing from the plat (or printed copies) in outline, and designing; work done mainly free-hand.

2.—Drawing of problems in plane geometry, with practical applications; work done with instruments.

3.—Model and object drawing; that is drawing from the round, or free-hand perspective.

4.—Exact or mathematical perspective, also called practical perspective; the presence of objects to be drawn not required, hence adapted to the representation of objects which are to be made; work done with instruments.

5.—Mechanical drawing, or the representation, by parts, of objects that are to be

constructed. The drawings, executed with instruments, are to be made to a scale, and being for the guidance of workman, are called working drawings. No pictorial effects are sought, as the drawings are not done according to the principles of perspective, but of orthographic projection.

Instruction should not be limited to any one kind of drawing. For though each is, in the main, independent of the others, and can be mainly learned by itself, yet they have more or less in common, and exclusive instruction in no one department can secure the best results.

All instruction in drawing should have for its basis the forms and principles of geometry. It is said that art is founded upon nature, but nature herself builds upon geometry; though generally departing from rigid geometrical forms in matters of detail, yet frequently the departure is very slight. Notice the precise hexagonal arrangement of the beautiful snow crystals.

Regular conventional forms, that is, forms derived from nature and used for decorative purposes, should be drawn before irregular natural forms, for they are more easily executed, and train the eye to a proper appreciation of natural forms. The logical order of drawing then is 1st, the geometrical form; 2d, the conventional form; 3d, the natural form.

Ornament should be based upon the study of nature, especially of plant forms, the great source of decorative art. In the use of natural forms for the purposes of ornament, there should be no violation of their general characteristics and laws of growth. To enable the pupil to appreciate the manner in which natural forms may be made subservient to ornament, much attention should be given to drawing historical forms, illustrating different styles of decorative art, and showing how others have handled ornament.

In drawing a natural object, the general

geometric form upon which it is based should be first determined; then the outlines should be drawn and details added.

A pupil should understand the purpose of a drawing before commencing it; the teacher should explain it carefully with illustrations. If we wish to see accurately, we must see with the understanding. If the pupil perceives that each line drawn has a purpose, his interest will increase as his work approaches completion.

The learner, from the very beginning, must be taught to draw rapidly. In free-hand drawing, beginners are apt to draw too slowly, with too much effort at precision. Fine finish will come in due time, do not strive for it at first.

Only pure form should be sought in the grammar schools. Shading should not be allowed. Unless the form is correctly drawn, no amount of labor on light and shade will produce a good result. A poor design dressed up with a little shading, may look pretty to uneducated eyes, but it takes a good design to look well in pure outline.

The pupil should be often exercised in original design. Besides cultivating the creative faculties, it is the most effectual means of giving him a love for his work. Much of the work of beginners in drawing is dull enough, but every child likes to design if the exercise is not made a task, and he is properly taught. We would not set children to performing examples in fractions without first explaining the principles involved. On the blackboard, the teacher should show the pupils how to make their designs, and give them material to work with. I think children should not make their designs at home, they should do the work under the eye of the teacher, and with the stimulus of companionship. If one pupil makes a good design, it should be shown to the others. If another violates some simple principle of design, with the utmost kindness, it should be

commented upon, that the others may avoid the same fault.

I have found the following a very easy way to commence teaching design. Draw upon the blackboard, some simple figure, say a four-pointed star; the diameters first, both of the same length; then the square, and diagonals. Bisect each semi-diameter and connect the successive points of division, thus forming a smaller oblique square, and from the vertex of each angle of this square draw oblique lines to the corners of the large square.

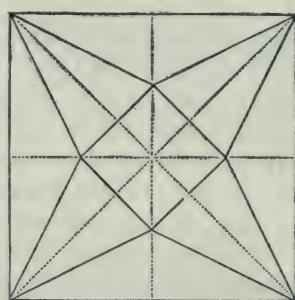


FIG. 1.

Have the pupils copy this upon their slates, according to the directions given. Cross the small oblique square; explain that this makes a different design. Add the lines in figure 2. The pupils will

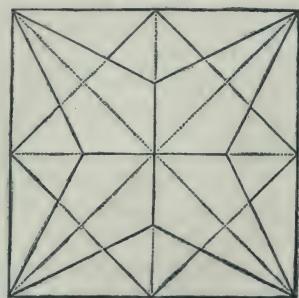


FIG. 2.

immediately see that you have made another design. Erase all of the design except the four points of the star and draw the lines in figure 3. Explain that either

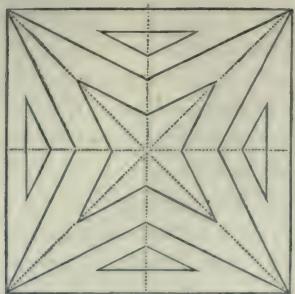


FIG. 3.

erasing, or adding symmetrically to a figure makes a new design. This style of exercise can be repeated with the great variety of figures in Smith's drawing manual or cards. Caution the pupil not to put in too many lines. They cause the design to look crowded. After this exercise, request your scholars to further change the design. Many will make something quite pretty in a few moments. Each slate should be examined, and those that have made the best drawings should be requested to copy them at home upon paper, and bring them the next day. A few extra credits will be a proper reward.

Many teachers are timid about drawing before their scholars. This feeling should not prevail, for only rude and rapid sketches upon the blackboard are expected from the teacher, and this is all he should take the time for, if he could draw ever so well. One of our most successful teachers often laughs at her "attempts at drawing," but she says her class think she *could* draw better if she would take the time.

Children should have printed copies to draw from, and not depend entirely upon the necessarily imperfect drawing of their teachers. The timidity spoken of should make the teacher very lenient with the failings of the pupil. Give a great deal of praise, even for poor work. If you can not praise the drawing or design, praise the attempt, and the encouragement will stimulate to renewed endeavors. I have often found considerable latent talent to be

developed in this way, and where least expected. It does no good to find fault with the drawings of pupils. It discourages those who have really tried, and does not encourage those who have not tried. I wish I could write in letters of gold in every school-room. **ENCOURAGE YOUR PUPILS.** I have often seen dull pupils grow interested in drawing, and through this become interested in their other studies.

Drawing is a pleasant study for children, and tends to make school pleasant. Those teachers succeed best in teaching drawing, who recognize it as an integral part of general culture, and hence treat it as they would any other study, that is, according to recognized principles, and methods of teaching. Drawing experts never succeed as teachers of drawing, if they neglect to treat it in this rational way. Their knowledge of drawing and skill of hand is not enough for successful instruction.

WHAT SHALL I DO WITH HIM ?

BY M. A. WARREN.

My son is brave, manly and fifteen. He rides well, can shoot tolerably and speaks the truth. He has attended such schools as are conveniently near, has mastered the elementary truths of grammar, arithmetic, and geography, has dipped into physiology, algebra, and geology; has a smattering of French, and wants to know German; in short, he has just about the average amount of information which I suspect the nine-tenths of us ever get from books. And now comes the question of what to do with him. Shall I hustle him into business, apprentice him to some merchant or banker, or shall I continue him at his books and try to make a professional man of him? This is the question which I ask you to help me decide. It is of no trifling moment—this question of mine. The future we are all wishing for, my boy must

help make! The coming glory of this dear old State, my boy must help win and share. So you see the question broadens, at once, from a personal and private matter, to a broad and national one. It is no longer my business; it is yours as well. It is no longer our business; it concerns every one of our fellow-citizens, as well. And I feel bound to discuss this question on no selfish grounds, and to let no prejudices enter into my decision. This is why I have called in your counsel, and so as we sit quietly together, to-night, let me tell you what I think, and afterwards, old friend, you shall have your say.

And I think, first, that I ought to give him a very different education from what I should have done, had he been born fifteen years before he was. Fifteen years ago—that's a long time back! We were living on the old plantation then. My two older sons were little lords in their way, and ruled it with a high hand. They had horses and leisure at their command, and many and jolly were the hunting scrapes we've been in—I and my two boys. You know how it all ended; how one morning they mounted their horses to follow Lee into Virginia, and how they never came back. My two boys are gone and so has the old plantation. I do not complain; I accept all as best. But since I have not got my property now, it seems to me very foolish to act as if I had it, and I think my boy must be educated accordingly.

The first conclusion I have reached, therefore, is that this boy must have a different bringing up from the first two. So much seems rational. Very well, the question is then simplified by so much. I have, at least, one kind of education I do not want for my boy. Perhaps I can not more readily get at what I do want, than by examining narrowly this thing I do not want. Let us look at it then; how was it I educated my first two boys? You remember that everybody sent their sons to

Dr. Jones, and I did as everybody did. The Doctor taught them as he pleased, and he pleased to teach them as if they had been contemporary with Cicero. But I did not much care. I paid the Doctor for taking them over the track, and when I had settled my quarterly bills, I considered my duty, as a parent, fully done. To be sure, I did sometimes have an uneasy feeling, when I asked myself what good all my Greek and Latin had done me, but when my boys came home in their vacations, it was joy enough to scour the woods with them, and to hear their hearty laughs, and classic jests, even though I knew they could not name the tree under which we were taking our noonday lunch, nor one of the flowers we crushed with our feet. Poor fellows! I've often thought that if they had known more of the plants, and stones, and weather, and stars, it would have served them many a good turn in those Virginia woods.

Well, that is about the way we all of us did it. We sopped them in Latin and Greek at the academy, and sent them to college to fry. Mine went with the rest, and in due and proud time they were graduated gentlemen. I reckon I shan't soon forget that day! It was a great day for them; it was a day of days to their father. I sat on the platform that day; their mother sat among the audience at my right. I don't forget how radiant her pale face grew that day, and when our boys spoke their orations and the flowers dropped around their feet and mine, I felt that all my money had been wisely spent and only wished all this could have cost more! My boys were educated at last. And what next? Ah, what is life, even though you can read Greek, without an object, a purpose, or what sweetness is there from leisure unwrenched from toil? And so, when the storm burst, the hot and gentle blood of my boys welcomed it as a very god-send, and they were in their saddles with their

faces northward, before their mother's cheek was dry.

And now this young one is coming up to a new dispensation. He must work for his bread and he knows it. I have no money now for Latin and Greek, unless Latin and Greek are going to bring me back money. If my boy wants a profession, the ministerial or the legal, for instance, he shall have all the classics his brothers had, and more. But he don't choose either of these lives, at least he says he don't, and I really think I understand the boy. At least I know what I want for him. I want him to know and be in sympathy with the spirit of his age, and it is not the old college curriculum, unmodified, which will give this.

But if that won't; what will? Is there no course of study which will take my boy just as he is, and make him just what I want him to be? I do not know that there is, but I am fully persuaded that there ought to be. And I am persuaded, moreover, that you and I can, and ought help make it. For, be assured, if we wait for the teachers to do it, we shall wait long. Teachers, themselves, will not make changes. Why should they? Their business, like that of all of us, is to supply the market, and so get their bread. Like all other men, teachers love and hate routine. They love it, as it saves them the trouble of thinking; and they hate it—you know why. And so if you and I want our boys taught differently, we must make a stir.—*National Teachers' Monthly.*

AN

EDUCATIONAL "SYMPOSIUM"

Spelling Reform.

JEANNE C. CARR—Any one who has attempted to teach the English language to foreigners, will not need to be told that only by the most persistent and long continued effort can they gain the

mastery of our absurd and extravagant orthography. Few have considered that the same waste of time attends its acquisition by our English speaking population, or that a very large percentage of illiteracy would be cured by reforming it. Although scores of writers have treated of discrepancies in our language, and scores of attempts have been made at improvement, nothing serious has come of it until within the last four or five years, when the co-operation of European and American linguistic scientists, into an influential organization, gave promise that a well-considered scheme of reform would be presented to the judgment of our teachers.

The special Associations which are committed in its favor are, in England, the Society of Arts, the Social Science Association, the London Philological Society, the College of Preceptors, and the National Union of Elementary Teachers. In America, the American Philological Society of which Professor William D. Whitney of Yale College was the first President, and is now one of the most active members, the National and several State Teachers' Associations, and *the Legislature of the State of Connecticut!*

Perhaps some of the readers of the JOURNAL would like to know who are the leaders in this Reform, and exactly what they propose to do, in carrying it forward. I must reserve the methods proposed for another paper. We will let Prof. Whitney speak for himself. He says, "I have especially felt called upon, as a historical student of language, and of modes of writing, to protest in the name of sound science as well as common sense, against the worthless arguments popularly brought forward in opposition to a changed and consistent spelling of English, *and to demonstrate their worthlessness.* That scholars and men of enlightenment should come to hold the true opinion on this subject, has seemed to me a necessary preliminary to a Reform

movement. A beginning, any where or of any kind, is what is most wanted. Break down the false sacredness of the present modes of spelling, accustom people not to shiver when they see familiar words "mis-spelt," and something good will be the final result. Every great and important revolution involves a period of anarchy, this is what the conservative dreads, few have the courage to look across it to the "era of better things that is to follow."

Prof. March, in his address at the Spelling Reform Convention, held in Philadelphia last year, says: "Writing is the agent by which each generation is introduced to knowledge and culture. Philology prides herself on her conquest of the past, her reconstruction of history; but she should aim at the higher praise of earnest work for the *future*, of contributions to the *progress* of the race. The improvement of the reading machinery of the English language, the reform of English spelling is a great work. *It is doubtful whether the steam engine or the telegraph, contributes as much to the progress of the people, as would the introduction of a good phonetic system of spelling our language.* The difference between a family who can read, and one who cannot, is greater than between a family that uses railroads and telegraphs, and one that does not."

This is pretty strong language, but the learned professor fortifies this view with arguments so well put, that one might almost expect to hear the Spelling Reform advocated from our pulpits.

"Our wretched spelling hinders our people from becoming readers, by the length of time it takes to learn it, and the dislike of reading which it induces. Three years are spent in our primary schools in learning to read and spell a little, the German advances as far in a twelvemonth. *A large fraction of the school time of the millions, is thus stolen from useful studies, and devoted to the most painful drudgery.* It affects the intellect of beginners.

The whole process is stupifying and perverting, it makes great numbers of children hate the sight of a book and reluct from all learning. There are 5,550,000 illiterates in the United States, and one half of them reported as able to read, cannot read well enough to get much good from it. *Moral degeneracy follows the want of cultivated intelligence. Christianity cannot put forth half her strength when she cannot use her presses.*

Republics fall to ruin when the people become blind and bad. We ought then to reform our spelling from patriotic and philanthropic motives. And if these do not move us, it has been computed that we throw away \$15,500,000 a year, paying teachers for addling the brains of our pupils with bad spelling, and at least \$100,000,000 more, *paying printers and publishers for sprinkling our books and newspapers with silent letters.*"

During the convention, two interesting statements were read bearing upon Prof. March's arguments. One was from J. B. Towe of the Howard University, showing the impossibility of making good spellers in the schools for freedmen; another excellent paper from Rev. S. V. Blakèslee of California, who has given twenty years of patient study to this reform.

It is twenty-five years since I listened to Prof. S. S. Haldeman, now of the University of Pennsylvania, on this interesting phase of scientific progress, before the American Scientific Association. Prof. Haldeman thinks the wedge which is to burst open our whole bungling and irrational scheme of orthography, is the series of resolutions unanimously adopted at the last session of the American Philological Association. These resolutions form an appropriate subject of discussion in our Teachers' Institutes, and especially in our Educational Journals. I append four only of the eight resolutions passed.

i. The true and sole object of alpha-

betical writing is, faithfully and intelligibly to represent spoken speech, so called "historical" orthography being only a concession to the weakness of prejudice.

2. The ideal of an alphabet, is that every sound should have its own unvarying sign, and every sign, its own unvarying sound.

6. To prepare the way for such a change, the first step is to break down by the combined influence of enlightened scholars and practical educators, the immense and stubborn prejudice which regards the established rules of spelling almost as constituting the language, as having a sacred character, in themselves preferable to others.

8. The Roman alphabet is so widely and firmly established that it cannot be displaced. In adapting it to improved use for English, the efforts of scholars should be directed towards its use with uniformity, and in conformity with other nations.

There is hope that the next generation of pupils in our public schools will not labor under the difficulties of "p-h-t-h-i," when they wish to spell "ti," in phthisic, or "arrh" for "ar" in catarrh, or "yrrh," in myrrh, not to speak of thousands of words less disfigured with silent and useless letters. It will "no longer be a mark of promise *not* to spell easily."

As Prof. Haldeman says, "from a place in the Sandwich Islands spelt *Maui*, and pronounced *Mowee*, when they speak English, to another place nearly opposite on the globe, where the people are eagerly trying to learn it, and spell their chief town *Maulmain* pronounced *Mowl-mine*, people are waiting with interest to know what the teachers and scholars of America are willing to do in helping onward the Spelling Reform.

JOSEPH LEGGETT.—Radical reformers are persons of strong convictions. They are always convinced that they are right, and most of them are unable to see either right or reason in the arguments or views of their opponents. For illustration, I have but to refer to the eminent authority cited in the preceding

article. I am not, however, so much stunned by the citation of great authorities as I used to be; for I have learned from experience that very wise men have sometimes said and done very foolish things. I prefer, therefore, to follow the glimmer of my own reason to being dazed or stunned into stupid acquiescence by the glare of great lights. Our reformers often forget that we are what we are and where we are, not so much by virtue of what we ourselves have done, as by virtue of what our predecessors have done before us. There is not, probably, a single man of the present generation who will not influence future generations much more than he does his own. Each generation of men is but a link connecting the past generations with those which are to come. We all have to commence life on the plane on which our fathers started us, and our children will have to do the same.

If we could cut ourselves loose from all the ties that connect us with the past and bind us to the future, we should be free to reform, at once, a great many things that, situated as we now are, we cannot safely touch. What is called reform in spelling is, in my opinion, one of these things. If some supreme authority had power to enforce a decree that henceforth all our books should be printed in phonetic spelling, in less than twenty years it would be extremely irksome and difficult for us to read any of our present books, while to our children they would be completely sealed. The only way in which the treasures of knowledge contained in our present books could then be reached would be by learning our present system of spelling, as we now learn the dead languages, or by reprinting all the books that are now in print. The result of such a change would be to render the contents of all our public and private libraries practically valueless. Such a result would be most disastrous to learning and to civilization.

But a change in our mode of spelling must injuriously affect the advancement of learning in another way. Prof. March says that our present spelling induces a dislike of reading. How much fact there is in this statement, I am unable to determine. I know I feel no dislike of reading our language on account of the spelling, nor have I ever met a person who did. But I do know that, after being in the habit of reading books printed in our present spelling ever since I learned to read, I should very much dislike to be compelled to read my Shakespeare or my Milton in the new-fangled spelling. I believe that nine out of every ten readers would experience the same feeling of dislike. We might admit that it was a very philosophically spelt language, but we couldn't help feeling that it was not English. This dislike would tend to break up the habit of reading in those persons in whom such a habit has been already formed, and thus check, for a time, at least, the growth of the number of readers; for each succeeding generation reads more than its predecessor, simply because the latter read more than its predecessor. A change in our method of spelling would undoubtedly lessen the taste for reading in the generation in which the change was made. Such a change must retard the increase in the number of readers, and in that way, I think, would produce more mischief than the reform would good.

As to the difficulty of learning to spell our language, I am not at all convinced that it is an unmixed evil. It requires the exercise of close observation to acquire a knowledge of spelling. The learner must be habitually observant to become a good speller. And will any one be willing to say that three years of infant school life are lost if they result in forming such habits in the child? I admit that to learners of riper years, whether foreigners or persons whose early education was neglected,

our spelling presents obstacles. But this I consider to be a matter of slight account. Few adults learn to read and write, and foreigners have much more difficulty in learning to speak our language than in learning to spell it. But children who enter school at five or six years of age may be as profitably employed in learning how to spell as in learning how to do anything else that they are able to do for the first two or three years. It is just possible that what is called our "wretched" and "absurd" spelling has compelled our teachers to waste time judiciously in the early training of children, and thereby saved them from the injurious effects of a hot-bed forcing of their faculties.

Prof. March tells us that a German child learns to read in one year as much as an English-speaking child can in three. I don't think the German child is any the better off for it. I know our children learn to read and to spell our words long before they gain, or can gain, the slightest idea of their meaning. Now, what is the advantage of a child's knowing how to read if he is not sufficiently mature to understand what he reads, or even the meaning of the words? Time is a necessary factor in the making and maturing of all things that are valuable, and I fear many noble minds are marred by lack of patient waiting for nature, on the part of those who direct their development.

I do not wish to be considered unpatriotic because I do not believe in spelling reform. I, too, believe that the only secure foundation of our republican institutions lies in the virtue and intelligence of our people. But I have not convinced myself that the existence of 5,500,000 illiterates in this country is due to our present system of spelling. If I were, I should turn spelling reformer at once. But I believe illiteracy is due, in almost every case, to lack of opportunity for, and not to the difficulty of, learning to read. After a man has reached

the age of twenty-five or thirty years without learning to read, it becomes a difficult matter for him to learn to read, simply because he has advanced beyond that period of life when the habit of reading is readily formed. A habit of reading, and a taste for it—and these can be acquired in early life only—are much more important than the mere ability to read.

The argument of Mr. J. B. Towe, of the Howard University, that we ought to simplify our spelling, because it is impossible to make good spellers in the schools for freedmen, is, to my mind, very far from convincing. I venture to say that Mr. J. B. Towe finds it just as difficult to make good pronouncers as to make good spellers in the schools of which he speaks; and if so, how will a phonetic system of spelling aid him, since, with such a system, his pupils will spell as badly as they pronounce? The fact is that freedmen, and children of freedmen, are bad spellers because neither they nor their fathers, whose mental traits and habits they inherit, ever had the opportunity for forming the mental habits that are requisite for learning to spell correctly.

The pronunciation of our language is continually changing, and is never the same, at the same time, in all parts of the English-speaking world. A phonetic system of spelling could not, therefore, be either uniform or stable. Under our present system of spelling, the written form of the word remains the same in all places, and at all times, however different or variable the pronunciation may be. We can all read and understand the English written by English-speaking men and women the world over, but we should find it very difficult to understand the spoken language of very many of these same men and women. I believe the effect of introducing a phonetic system of spelling English, would be to create inextricable confusion in our written language, and eventually to break up our present language into as many languages as there

are dialects or brogues spoken in the various parts of the English-speaking world. Such a result would, for various reasons too apparent to call for argument, be most undesirable. At present, all educated people write the language alike. If we had a phonetic system, no two persons would write it alike, and the constant tendency would be to still greater diversity, so that in time the English-speaking world would become a very Babel of confusion.

Many of our spelling reformers affect a strong contempt for the objection raised by adherents of the present system that the phonetic system of spelling would almost entirely blot out the pedigree or derivation of words. Now, I am not ashamed to say that, to my way of thinking, this is one of the strongest arguments against the adoption of the phonetic system. Comparative philology has shed a light on the dark pages of the history of mankind that it would have been impossible to derive from any other source. And I, for one, would very much regret to shut out this light from the minds of this and of all succeeding generations of English-speaking and English-writing people.

Prof. Whitney thinks that a long step towards reform in spelling will be reached when educated men and women will not feel a disagreeable sensation when they see words misspelt. Would the Professor think that society was more advanced if we could complacently look upon a beautiful and well-dressed young lady with uncleaned finger-nails or teeth? Clean finger-nails and clean teeth are small matters, but they are unmistakable indexes of very great ones. So with spelling. When I see a man misspell ordinary words in writing, I know just how and where to classify him, and I hope that spelling reformers will not, in my day at least, deprive us of the ability to do so.

Now, as to those resolutions that are to work such wonders on our scheme of or-

thography. I venture to say that it will take a long series of such resolutions to make much of a wedge. It seems to me that the first sentence in Resolution 8 takes the edge off the wedge entirely. If "the Roman alphabet is so widely and firmly established that it cannot be displaced," how are we ever to get such an alphabet as that described in the resolution numbered 2? And will our zealous spelling-reform resolvers please to tell us how we are to use the Roman alphabet "with uniformity and in conformity with other nations?" There is no uniformity in the use of any two of the other nations that use the Roman alphabet. How, then, can we use it in conformity with them?

Reform by resolution is a very cheap and an expeditious thing. It was a favorite method with some of the French revolutionists, but, fortunately, their reforms did not take root. And I very much fear, or perhaps I ought to say *hope*, that it will be so with the reform resolutions under consideration.

I have no doubt Prof. Whitney and his followers have long since demonstrated the *worthlessness* of all the arguments which I have tried to adduce in opposition to a change in our much-abused English orthography; but it affords me some consolation to know that I can find some arguments on that side of the question. Their value I must leave to the judgment of the impartial reader.

KATE KENNEDY.—The reform of English orthography is a subject that merits the earnest attention of every one who is interested in the intellectual development of the present and future generations of the English-speaking races. To its mixed origin the English language owes many of its excellencies, but it is indebted to the same cause for the most absurd orthography that an enlightened people ever persisted in retaining. It is true, that in our time it ap-

proaches much nearer to a rational standard than it did in the days of Chaucer, when it was in such chaotic condition, that the same word might appear in half a dozen different forms on a single page. No wonder that literary attainments were then limited to the few who possessed affluence and ease; and that the ability to read was considered a mark of distinction, for it must have taken a lifetime to acquire it. Now, when the poor and the rich, the busy and the idle, are alike invited to partake of the intellectual feast, they should be provided with some digestible food. The field of useful knowledge is so extended that we cannot afford to waste years in learning to spell, and the time has arrived, when a systematic, earnest, and intelligent effort should be made to revise our orthography.

Prof. March estimates that in consequence of the present cumbrous system \$115,000,000 are annually thrown away, but could the time wasted, and the intellect crippled through the same cause be estimated in dollars and cents, the amount would appear so enormous, that it would lead to a revolution such as the world has never seen.

The last census reports 5,500,000 illiterates within the limits of the United States, and Prof. March states his conviction that fully one half of those who report themselves able to read, do it so badly, as to derive little benefit from the exercise. Without holding our system of orthography responsible for this vast mass of ignorance, I believe with the learned Professor, that if it were properly simplified, the number of illiterates would rapidly diminish, while the proportion of knowledge-seekers would as speedily be doubled.

Prof. Leggett argues from his own experience that our orthography produces no dislike for books; he is not conscious of a dislike to read on account of it; would dislike to read Shakespeare or Milton in

the improved orthography; thinks that most people would share his repugnance; and fears that any change must seriously diminish the number of readers.

I am far from sharing these apprehensions. It is true, that we, who have successfully mastered the art of reading, would not part with the acquirement for the gift of a kingdom, and derive our greatest pleasure from its exercise. But we are too liable to forget the labor it cost, and the difficulties we encountered, and to lack sympathy with the many who have less time, less intelligence, or less courage than ourselves. Until I had been teaching for several years, I had no toleration for bad spellers, but the longer I teach the more charitable I grow, because more sensible of the difficulties that impede their progress. The labor of learning the alphabet is a distasteful one to the child. Those abstract forms present no beauty of outline to attract his attention, and help him to remember the meaningless names attached to them; yet the task is easy compared with the bewilderment which ensues in the hopeless endeavor while reading, to decide which of the various sounds that the character represents he should utter; or to determine, when writing, which of the many characters that represent a sound he should employ.

It is not surprising that children so often experience a feeling of deep discouragement and disgust, and long for the time when they shall leave school, and throw the tedious books aside forever. Many are so utterly absorbed in the endeavor to *pronounce* the words, that they have no thought to bestow on their *meaning*, and leave school at the age of twelve or fifteen, incapable of comprehending any subject which appeals to the understanding. A glance at the list of books drawn from our public libraries may serve to show how wide spread this mental condition is, and how few are engaged in the pursuit of

knowledge. With a rational orthography there would be no need of *learning to spell*, for each symbol would suggest the appropriate sound as unfailingly as the sound would suggest the symbol, so that mistakes would be well nigh impossible. What an amount of time would thus be saved for the acquisition of useful knowledge, and how delightful the pursuit would become! School training would then be what it was always *meant* to be, merely a means of pointing out the road to intellectual development, which the pupil should travel joyfully and persistently to the end of his life.

I think Prof. Leggett overrates the disadvantages of a change in orthography. The eye easily becomes reconciled to a new fashion, and we soon learn to appreciate its convenience and prefer it to its predecessor. For my part I should rather read the works of Shakespeare or Milton in the improved orthography than in the cumbersome style in which they were written; and I am convinced that if these authors could read their own productions in their modern dress, they would exclaim with Prof. Leggett: "This is indeed a more philosophically spelled language than ours, but it is not English."

Prof. Leggett is apprehensive that the treasures of knowledge stored in our libraries would be lost to us if an improved system were adopted, or that we should be obliged to learn the old orthography as we now do the dead languages in order to render those treasures available; and thinks that the reform would be dearly purchased at the sacrifice of the capital invested. It is well known that the strongest opposition to further progress generally arises from the improvements already made, and the magnitude of the interests invested in them; but when the superiority of the reform becomes evident, all opposition goes down before it, and equilibrium is again restored without entailing ruinous

consequences on the parties interested ; while it confers lasting benefit on the community at large. So has steam communication superseded stage travel, so is the telegraph superseding the postage system, and so will the improved orthography supersede the present.

In this age of cheap and rapid production, the books we read should suit our convenience as the garments we wear. It is practically so at present. A new and attractive edition of a favorite author drives out its predecessor, although the purchaser has to pay double the price for it ; and the neat portable volumes of thirty years ago lie idle on our shelves, because we have too much regard for our eyes to read such small type. If an improved orthography were adopted, we should speedily have reprints of all that is worth retaining in our libraries. Our books would be neater, more attractive, and less cumbrous ; for if all the redundant letters were omitted the matter contained in them could not occupy more than two-thirds its former space, and could be reproduced at less than former cost. A knowledge of the old orthography would not be needed as an aid in the acquisition of knowledge, and students desirous of becoming acquainted with its curiosities, could, as they now do, have recourse to glossaries or philological dictionaries. An improved alphabet can never prove disastrous to learning or civilization, it *must* facilitate both. It is as unreasonable to suppose that the simplification of spelling could diminish the number of readers, as that the invention of the cotton-gin would tend to lessen the demand for cotton fabrics by rendering them better, cheaper, and more accessible to all classes.

Prof. Leggett thinks the difficulties of our orthography not such a bad thing, if thereby habits of attention and observation are cultivated, and suggests that the time spent in *learning to spell*, may be profitably wasted if it prevents cramming.

Habits of observation and attention can be cultivated by a more rational process. We pay a poor compliment to those high faculties in puzzling them with abstractions which run counter to all the laws of association, when they could be developed in learning to classify objects according to the degree of similarity existing among them. And why *waste* time for any purpose whatever, when the mind is so keenly alive to the beauties of Nature, and so anxious to make her acquaintance in all her varied aspects. The child should spend his early years in the free air and sunshine, among domestic animals, birds, flowers, plants and insects, learning their habits and uses. This is a pursuit whose pleasure can never pall, and while thus agreeably engaged the teacher could find time to awaken in his mind all the higher emotions and sympathies, and so lay a sure foundation for a good and noble character.

I cannot agree with Prof. Leggett in the opinion that it is hardly worth while to consider adults and foreigners in relation to this question.

Want of time is undoubtedly the chief obstacle which prevents the education of illiterate adults, but if through an improved orthography they could learn to read fluently in three months, who can doubt that thousands would avail themselves of the opportunity, who now shrink from sacrificing the leisure hours of as many years to secure the advantage.

Instead of disregarding the interests of foreigners I believe that before any decisive change is recommended, the relations of foreign languages to our own should be carefully studied, and such symbols selected as will conduce to a greater uniformity ; thus simplifying the study of those languages for ourselves, and at the same time rendering the acquisition of our own more easy for foreigners.

Through the extension of commerce, the progress of civilization, and the more

frequent intercourse of nations, their various languages must tend to assimilate, until at last the civilized world shall speak one common tongue. By virtue of the extreme simplicity of its construction, the logical arrangement of its genders, the almost total absence of inflection, and its easy adaptation of new words, the English

language is so superior to all others that it seems manifestly destined to absorb them, and become the universal tongue. Therefore for the benefit of future generations as well as our own, the only formidable obstacle to this desirable end, viz: our absurd orthography, should bespeedily removed.

EDITORIAL DEPARTMENT.

JULY THOUGHTS.

Do teachers realize that all branches of instruction are not found in the State course? That the State Board of Education does not prescribe everything to be taught in the American free school? At the distance of a thousand leagues from the great centres of the Union, it is incumbent particularly on the California teacher to remember, that instruction in reading and spelling, is not all that the moral law demands of him. The public school is already justly regarded as the greatest nationalizing element in our land. Lessons of patriotism are not found in the text-books; but not a day should pass without impressing on the plastic minds of our youth an intense feeling of nationality—a high appreciation of the worth and dignity of American citizenship. The *morals* of events in the history of the republic, should be used to inculcate love of freedom, and hatred of oppression.

Every boy and girl in the nation should be impressed daily with a sense of ownership in our statesmen and warriors, our authors and artists. Eloquence should appeal most forcibly to their hearts and their understanding when they listen to the ut-

terances of a Webster, a Clay, or a Seward; feats of military skill and genius should most thrill their young hearts when the heroes of hard-fought battles are a Washington, a Greene, or a Grant, and the scene of their achievements is American soil, and in defense of liberty and the rights of man.

To inculcate patriotism is the sacred duty of the American teacher; all the more sacred because no law can adequately compel it. To obliterate all past bitternesses—to forever banish all sectional strife—to alleviate the animosities of partisan warfare, are the duties of all true, patriotic men and women. Teachers, above all other classes, as such, may influence the destiny of America. In this heterogeneous, cosmopolitan land, our children are mainly what our teachers make them. Let every teacher see that the boy or girl issuing, for the last time, from the door of the public school, is not so much a prodigy of arithmetic and grammar, not so much a book-worm, as one who has, at least, a comprehension of the elementary principles of Democratic government—who loves this land, as the home of liberty and of progress,—one who if not a good scholar may yet be a good citizen.

"An Educational 'Symposium.'"

Under this head, we present to our readers, in this issue of the JOURNAL, a highly interesting and able article, or rather series of articles, on the subject of SPELLING REFORM. The names of the writers commend the articles to the thoughtful attention of every reflective mind. The reputation of Deputy State Supt. Jeanne C. Carr, as a clear-headed thinker and vigorous writer, has extended beyond the confines of our own State and Coast.

Prof. Joseph Leggett, though, at present, a practicing lawyer in San Francisco, is a man justly entitled to be designated "Professor." In an administration of four years, as Supervising Teacher, and Deputy Superintendent of San Francisco, he has left indelible marks of a powerful, logical mind, and a thorough comprehension of the nature and functions of education, in the increased efficiency of the schools.

Miss Kate Kennedy is the Principal of the North Cosmopolitan Grammar School of this city; a lady cultivated in the highest sense of the term, a ripe scholar, who exercises an elevating influence on all the teachers connected with her.

This manner of discussion—presenting a subject from the standpoints of different Thinkers—is an imitation of the "Symposia" of Plato, presented in his philosophical "Dialogues" twenty-three hundred years ago. The *Nineteenth Century*, an English magazine, has, in a recent number, introduced the idea to modern readers, by an article on the opposite tendencies of morality and religious belief, in which that subject is discussed from every possible standpoint by some of the ablest minds of England. The *Popular Science Monthly* reprints the article.

This method of discussion is so instructive, that we copy the idea, and hope to present to our readers, if not monthly, yet

frequently, a combination of short articles specially prepared in this manner.

Deserving of Commendation.

The present Harper Brothers evidently inherit the progressive and enterprising spirit of the founders of that great house. Their publications, the *Weekly*, *Bazaar*, and *Monthly*, are as excellent as ever. In connection with the *Monthly*, a good idea has lately been put in practice. This is the issuance of a monthly advance-sheet of the magazine, containing the table of contents and choice extracts from the leading articles, for the use of editors who are in the habit of making selections from the Harper publications. This will be a very welcome innovation to that portion of the editorial fraternity who prefer to supply their readers with standard literature. We expect to make extensive use of the advance-sheet, and know our readers will profit thereby. We hope the idea may prove as remunerative to the originators as it will be beneficial to the press and the reading public. At all events, the Harpers deserve the thanks of journalists.

On Notices of this Journal.

A large number of complimentary, and some rather flattering notices have greeted the JOURNAL, since the issue of the initial number. We propose to reciprocate the courtesy by due acknowledgement, at an early day. We plead guilty, however, to some degree of carelessness in not having preserved all the kind things said of us by our brethren of the pen. Will the journals, who have favored us with notices, send us a marked copy for acknowledgement?

GEORGE BROWN, Principal of the Hayes Valley Grammar School, of San Francisco, a gentleman whose culture and capability

give great weight to his opinion, says of Mr. Gilson's article on Double-Entry Book-keeping, in our July number: "With it, an efficient teacher can dispense with any other text-book; an intelligent student can, by its means, without any teacher, learn thoroughly the principles of bookkeeping."

To Explain.

Of our readers who notice the apparent change in the publishers of the JOURNAL, the greater number already understand that there is no real change. Mr. Lyser, the CO. of the old firm, has, since the inception of the enterprise, been the manager and publisher. Mr. Lotz, whose connection with the JOURNAL ceased with the July number, simply had charge of the mechanical department, never holding any proprietary interest.

WILL teachers, to whom specimen copies of the JOURNAL were sent, in case they are not, or do not intend to become subscribers, be kind enough to send back such copies? There is a constant demand on us for back numbers, which we are, at present, unable to supply. Our office numbers have entirely given out, and the demand is continually increasing. We shall be glad to pay the postage, and shall thankfully acknowledge their receipt. These lines will explain to many subscribers, who have requested back numbers, why they have not been sent.

GENERAL NOTES.

EX-PRESIDENT, U. S. Grant, has received the title of D. C. L. (Doctor of Civil Laws) from Oxford University, England.

SUPT. STOCKWELL of R. I. thinks that there is room for great improvement in the present system of graded schools. There should be greater elasticity. In this, we heartily concur.

SUPT. MARVEL of Holyoke, Mass., is of the opinion that recent retrenchment in school expenditures has inflicted serious damage to the cause of education.

THE N. Y. City Evening High School, which began in 1869 with an average attendance of 555 scholars, has had during the past year an average attendance of 1,036 scholars.

THE University of Cambridge, England, has planned a department for the education of students who intend to adopt teaching as their profession. In other words, is about to organize a first class Normal School.

KNOX College, Galesburg, Ill., of which Hon. Newton Bateman, LL.D., is president, was founded in 1837, and fully organized as a college in 1841. With an able staff of instructors, the college is doing good work in the field of higher education. The number of students in the college proper, 53; in the seminary, 137; in the academy, 175. Total 327.

THE best teacher at the highest price is infinitely more valuable than the poor teacher at any price. If the public school ever becomes a burden too heavy to be borne, it will not be on account of high salaries, because public opinion and competition will keep them within bounds; but they may become a burden by mismanagement in organization and the administration of the system. One of the remedies for the reduction of expenses lies in effective, thorough, and vigilant supervision.—*Robt. W. Stevenson, Columbus, Ohio.*

GENERAL GRANT has enjoyed an almost royal progress through Great Britain. His reception was remarkable. From members of the royal family and patricians of

the bluest blood, from members of the cabinet and representatives of the great cities of the country, from men of science and men of letters—in short, from “all sorts and conditions of men,” he has received a greeting such as has never hitherto been extended to an American. And he has deported himself through it all with a modesty and manliness that have won their esteem, and added to the good feeling that is felt for him by his countrymen.—*Harper's Weekly.*

TEACHERS have work to do outside of the schools, in establishing literary societies, readings rooms, and fostering lyceums, etc. It would be a great work to organize a literary society in every school-room in the State—it would draw both boys and men from the tavern and the store, and give them an interest in books and papers. I know you have a man's work on hand now ; but I know, too, that the man to do work is the one who has most of it to do—nobody expects much of an idle man. No man knows how much he can do till he has tried ; and you will do your present work better for this addition. As you lift up public sentiment, you lift up the schools.—*J. P. Wickersham, Supt. Penn. Pub. Schools.*

DR. SIEMENS, in an address to the London Iron and Steel Institute, referred to several instances of available power being lost, owing to the inadequacy of our present means of utilizing it. The falls of Niagara are, he said, a familiar example of this. The amount of water passing over this fall has been estimated at 100,000,000 tons per hour, and its perpendicular descent may be taken at 150 feet, without counting the rapids, which represent a further fall of 150 feet. But the force represented by the principal fall alone amounts to 16,800,000 horse-power. In other words, all the coal raised throughout the world, would barely suffice to produce the

amount of power that continually runs to waste at this one fall.

THE following is pointed and practical. Let teachers note it. It is from the pen of Jerome Allen, editor of the *National Teachers' Monthly*:

“How many persons, of mature age, can write an ordinary letter without making several mistakes? In how many schools is the art of rapid and correct letter-writing taught? Is any branch of practical education more needed, and is any study more generally neglected? These questions are not conundrums, they are serious queries. What is the trouble with many teachers, and why is it they will continue the everlasting “parsing,” and constantly neglect the good, common sense training of their pupils? We need brains in the school room, or rather we need the common sense that comes of brain work.”

THE chief law of growth, however, and the one most generally overlooked—because it is the most inconvenient in mechanical schemes of education in home and school—is the law of SELF-ACTIVITY. Each child has to do his own growing; no one can do it for him. And this applies with equal force to all the directions of his being. Only what he eats, digests, assimilates, can add substance to his body ; only his own exercise and practice can impart strength and skill to his muscles, grace and directness to his movements ; only his observations, experiences, and investigations can fill and invigorate his mind ; only his feelings, emotions, and desires can direct his actions. Men grow neither strong, nor wise, nor good by proxy ; “paddle your own canoe,” is the only road that leads to these treasures.—*The New Education.*

IN “The Life and Letters of Lord Macaulay,” published by Harper & Brothers, it is mentioned that 26,500 copies of his

history had been sold in ten weeks. Longman his publisher, one day came to him and said they were overflowing with money, and proposed to pay him £20,000 in the following week. The check is still preserved as a curiosity among the archives of Messrs. Longman's firm. "I went into the city," says Macaulay, "to give instructions, and was most warmly congratulated on being a great moneyed man. I said that I had some thoughts of going to the Chancellor of the Exchequer as the bidder for the next loan." This payment, large as it is, has been exceeded in this country. Harper & Brothers have paid as copyright to Mr. Marcus Willson, the author of their series of school readers, about \$200,000; to the late Professor Charles Anthon, about \$100,000; to Mr. Motley, about \$60,000; to Jacob Abbott, about \$50,000; to the late Albert Barnes, \$75,000; and to English authors over \$300,000.—*Harper's Weekly.*

A very curious narrative referring to the alleged habit of hibernation of migratory birds, is given in a recent number of *Nature*. Sir John McNeill, a brother-in-law of the Duke of Argyle, and formerly a resident in Persia, states that in company with Sir Henry Rawlinson, he once visited the village of Kenara-gird, about twenty-five miles south of Teheran, during an unusually severe frost. There is here a stream of brackish water, which is never frozen, running between nearly perpendicular banks forty or fifty feet high. These walls were perforated with an immense number of holes about the size of a rat-hole, all of which are occupied by swallows in the dormant state. Each hole contained several swallows, but in no case were they seen lying one on another; all singly, with their heads inward, each head touching the tail of the bird before it. In one place a large piece of the face of the cliff had become detached by a land-slide, and here a

large number of swallows were lying on the ground, apparently dead, but really in the same dormant condition; they were warm, and the breathing was quite perceptible.

ITEMS FROM COUNTIES.

SAN FRANCISCO COUNTY.

There are 840 pupils in the Girls' High School of this city.

The High School building, at the corner of Bush and Hyde Sts., erected but five years ago, is inadequate to accommodate all the classes, so the Board of Education have resolved to erect a new eighteen class building. Proposals for the erection of this building have already been advertised for.

There are 80,249 census children in this city, two-thirds are between 5 and 17 years of age. The net gain over last year is 8,808.

The balance on hand at the end of the fiscal year 1876—77, was \$141,000, instead of \$94,000, as at first supposed.

Miss A. Roe was elected, July 17th, Vice-Principal of the Valencia Grammar School.

At the same meeting G. Schoof was elected teacher of mechanical drawing for the Department.

Mrs. Anita C. Black sent in her resignation as teacher of the Department. As a compliment to her excellent service, the Board decided that instead of accepting the resignation they would grant Mrs. Black an indefinite leave of absence.

Mr. Henry Senger, a undergraduate of the University of Berlin, and a gentleman of culture and refinement, was promoted from the South Cosmopolitan School to the position of Professor of Ancient and Modern Languages and of the Belles-Lettres, in the Girls' High School.

Prof. C. H. Silliman, lately a teacher in the California Military Academy, at Oakland, has been appointed to a position in the Boys' High School of this city.

In July, Capt. James Hughes was elected instructor of gymnastics and military drill for the city department. The Committee on Rules and Regulations are now preparing a course of instruction, and physical culture will soon receive some share of attention in our schools.

Three San Francisco High School, or rather Latin School boys, for to A. L. Mann, Professor

of Ancient Languages in the High School, is the honor mainly due, have passed a highly creditable examination for admission to Harvard. These are not the first graduates of our High School, who have compared very favorably with eastern pupils in their classical training. Mr. Mann has prepared a number yearly for some eastern college, who have always ranked high in their several classes.

D. C. Stone, Deputy Superintendent, spent his vacation at Point San Pedro, about fourteen miles from this city. Mr. Stone erected tents for himself and party on the sea shore, and between botanizing on the hills, swimming in the surf, and gathering shells on the shore, four weeks passed delightfully. D. C. says he knows "How to Spend the Vacation." We believe him, and can promise the readers of the JOURNAL, that they shall soon hear him relate his experience, at length.

Upwards of 30,000 pupils are in actual attendance in the public schools of this city.

ALAMEDA COUNTY.

A. J. Farley, well and favorably known throughout the State as an accomplished teacher and an occasional contributor to the *Overland*, took advantage of his vacation a few weeks ago, to commit matrimony. He has the best wishes of his many friends.

The marriage of teachers is more than usually epidemic this year. The Oakland school department loses one of its kindest and most pleasant young teachers in the marriage of Miss Clara Hawley to Mr. George W. Patterson, one of the most prominent citizen of Alameda County. We have known Mr. Patterson many years as a genial and modest gentleman; both bride and groom may well be congratulated.

Fred. M. Campbell, City Superintendent of Oakland, spent a two weeks vacation at Lake Tahoe, fishing and paddling his own canoe up and down the waters of that beautiful mountain lake.

On the re-opening of the Oakland schools after vacation, on June 9th, the increase in the number of pupils was so great, that the Board of Education was compelled to rent five or six additional rooms.

The erection of a new eight-class building has begun in Oakland, the cost of which will be \$14,000.

There are 6381 children between five and seventeen years of age in Oakland.

The German citizens of Alameda City have taken steps to organize a Cosmopolitan School there, to be supported by private subscription.

The schools of Alameda City are in excellent condition. German has been introduced as part of the High School course, and a class in Theory of Teaching will be formed in that school for those desiring to teach. To Supt. Bradley, is the efficiency of the department mainly due.

Prof. A. C. Bloomer, of the Hayward School, has prepared a course of study for the High School Department of his school, which is both high in standard and comprehensive. It embraces, in the Senior year, Geometry and Trigonometry, Chemistry, Ancient History, and English Literature. This school under Prof. Bloomer ranks as one of the best in the State.

There are at present 451 children between five and seventeen years of age in the district.

The corps of teachers consists of a Principal and four Assistants.

SACRAMENTO COUNTY.

F. L. Landes, the present efficient and popular Superintendent of this County, has been re-nominated for that position, and will undoubtedly be re-elected for the ensuing term.

Prof. Norton, of the State Normal School, delivered a course of lectures in the High School building in Sacramento City early in July. The lectures were well attended, and are spoken of as having been both entertaining and instructive.

County Supt. Landes has been making a tour of the schools in the County, examining, and making promotions.

The Elder Creek School in this County, taught by Mr. Howard, was found in excellent condition. The term closed Friday, July 6th, and highly interesting public exercises were held, which were attended by the Trustees and a large number of parents.

- The School at Michigan Bar, taught by J. W. Johnson, of which we have already spoken in the JOURNAL, held examinations about the middle of July. The discipline and proficiency of the pupils in their studies reflect great credit on the ability of their teacher.

The largest school in this County, outside of Sacramento City, is the Folsom School, taught by Mr. Bradner, Principal, and Mrs. Bugbey, Assistant. The examinations in this school were very satisfactory, and the number of promotions was large.

\$3900.06 were apportioned among the school districts of this County in July.

A new district, called the Capital, has been formed near the city. The School opened on July 9th, with Mrs. McDonald as teacher.

There are 4344 children between 5 and 17 years of age in Sacramento City. This indicates a population of at least 20,000.

SANTA CLARA COUNTY.

There are 9165 census children in this county.

The Almaden public school opened July 16th, with H. F. Husing, Principal, Miss Gertrude L. Black and Mrs. Clara Gay, assistants.

There are 426 pupils enrolled in the Gilroy schools, Prof. A. W. Oliver, Principal.

L. J. Chipman, Principal of the First Ward School in San Jose, was transferred to the Principalship of the Second Ward School, *vice* C. W. Clement resigned. Mr. Chipman is the republican candidate for Superintendent of this county.

Ex-City Superintendent James G. Kennedy, now Principal of the San Jose High School, was elected, early in July, a member of the City Board of Examination.

A complete report of the work in the schools of San Jose, under the Superintendency of James G. Kennedy, has been received by us. The report, a pamphlet of over 200 pages, indicates a high state of efficiency in the conduct of the said department. The report includes a history of the schools of the city, general statistics, and what particularly struck our attention, a comprehensive, yet short and incisive argument in favor of the establishment of technical or labor schools. Mr. Kennedy is a man who has an extensive acquaintance with all classes of practical men, and evident habits of close observation render his opinion and argument on this subject of practical education, peculiarly valuable. We shall make extracts from his report on this as well as on other subjects.

SAN JOAQUIN COUNTY.

The people of Island School District in this County will vote on the question of erecting a new school-house on August 6th.

The Stockton High School, A. H. Randall, Principal, closed a highly successful year's work on the 29th of June, when the commencement exercises were held. The graduates, thirteen in number, were well prepared for the closing exercises, which attracted a large and attentive au-

dience. The diplomas were presented to graduates by the Rev. S. B. Morse, a member of the City Board of Education. This school has been conducted by Mr. Randall for six or seven years, a sufficient commentary in this State on his high ability and merit as a teacher. His assistants are Mr. D. Waterman, and Miss Lottie Grunsky.

Miss Sarah C. Doubleday, formerly a resident of Stockton, and a pupil of its High School, had the valedictory at the commencement exercises of the New York City Normal College on the 28th of June. Her standing on final examination for graduation was 98½ per cent.

SONOMA COUNTY.

There are 7581 children between 5 and 17 years of age in this County.

The Santa Rosa public schools re-opened after the summer vacation on July 16th.

The Occidental School, Miss Kate Hinckley, teacher, held interesting closing exercises, and a picnic at the close of the term, June 29th.

J. Holman Burnet, one of the most capable and worthy teachers in the Santa Rosa public schools, spent a portion of the June vacation by taking a bridal tour.

The Petaluma *Courier* says: "M. E. C. Munday, Principal of the Grammar School, has returned to town from a several weeks fishing and hunting trip. Martin says, he has tried oratorical pauses, Latin derivatives, algebraic equations, geometrical problems, and grammatical constructions, but when fishing for trout, he thinks grasshoppers the best bait."

The Healdsburg public schools re-opened on the 16th of July with a large attendance, and every prospect of a successful term. There are eight teachers, with O. S. Ingham as Principal.

Four new school-districts were organized in this County in July; a good indication of educational activity.

H. E. Carver, for the past two years Principal of the Gilford School, has been re-elected for the ensuing year.

H. J. Tobias, a successful teacher, opened the Toyome School on July 16th.

Prof. Chas. E. Hutton, of the Petaluma High School, also teaches a private Normal Class in that city.

M. E. C. Munday, a prominent and highly successful teacher of this County, at present Principal of the Petaluma Grammar School, is

the democratic candidate for Connty Superintendent. From what we hear, we believe no better nomination could have been made.

LAKE COUNTY.

L. Wallace, Superintendent of this County, is one of the proprietors and editors of the Lake County *Bee*. Consequently that paper has an excellent and interesting educational department. A recent article on "Labor Schools," reflects views expressed by us in these columns on "Technical Education," and withal is so pointed and incisive, that we shall, at an early day, make liberal extracts.

S. T. De Pencier has taken charge of the school in the Mountain District.

The people of Scott's Valley are building a new school house. The building will cost about \$800.

The first meeting of the Teachers' Association of Lake County, was held at Upper Lake, Saturday, July 21st, 1877.

The Superintendent in this County is so thoroughly "live," that teachers and trustees are so likewise, and education benefits exceedingly thereby.

LOL ANGELES COUNTY.

There are 1730 pupils enrolled as pupils of Los Angeles City Schools.

The High School, City Superintendent C. H. Kimball, Principal, members 85 pupils on the register, a large number for a city of the size of Los Angeles.

The sessions of the city schools have been much interrupted by epidemics during the past year, but the results at the annual examinations, were, nevertheless, quite satisfactory, indicating excellent supervision and faithful work on the part of teachers.

NAPA COUNTY.

Prof. Lasher, a teacher of ability and experience from New York State, has been elected Principal of the Napa Collegiate Institute.

The Napa City Schools, under the Principalship of County Supt. Fellers, will re-open on Aug. 16th.

Prof. George Glassman, one of the teachers of Oak Mound School, is a prominent applicant for a consulship in Switzerland or the Levant. He is spoken of as an accomplished linguist and a man of marked ability.

SOLANO COUNTY.

The Suisun School opened on July 16th with County Supt. C. W. Childs as Principal, and Mrs. W. Hoyt and Miss Nellie Childs, Assistants. Mr. Childs has not only been one of the most efficient County Superintendents of the State, but his ability and success as Principal of the Suisun School have so endeared him to the people of that town, that he has been constantly re-elected to conduct their school. We trust he will also be re-elected to the Superintendency; no man deserves it more, and none can reflect greater credit on the position.

The Vallejo High School, C. B. Towle, Principal, and Mr. Roe, Assistant, opened with full classes, and have entered heartily on a new year's work.

J. P. Garlick, a successful teacher, is Principal of the Grammar School at Vallejo.

At South Vallejo Mr. J. S. Congdon is Principal of the Schools.

There are 857 pupils and 18 teachers in the Vallejo department.

CONTRA COSTA COUNTY.

Mr. William Crowhurst, lately of Vallejo, and one of the most successful teachers of the State, whose contributions have appeared in the JOURNAL, has been engaged as Principal of the Somersville School, with Miss Parker and Mrs. Crowhurst as Assistants.

Mr. and Mrs. Young continue in the San Ramon School for the ensuing school year.

MENDOCINO COUNTY.

The trustees of the Ukiah Public School have selected their corps of teachers as follows:

Principal, M. L. Weeks, formerly of Colusa, Vice-Principal, J. S. Hunter, Assistants, Miss Fannie L. Davidson, and Mrs. S. W. Haskett.

E. B. Gambee, formerly Principal of the Ukiah school, and Miss Emily Van Dusen took charge of the Mendocino City School on July 16th.

The Census Roll for the County has been completed and shows the following results:

Total number of Children in the County between 5 and 17.—White, 3120; Negro, 3; Indian, 195. Total census children who draw school money, 3318.

Under 5 years, 1607. Total number who have attended public school, 2563. Total who have not attended public school, 710; of which 104 are Indian.

A tax has been voted in Mill Creek District for building purposes, and Miss Kate Siddons who has charge of the school will soon have the pleasure of teaching in a new school house.

A tax has been voted also in Carroll District, Mr. Ramsey, teacher.

The Ukiah school will open on Aug. 6th.

Supt. Ruddock was tendered the Principalship of this School, but refused as he intends devoting his full attention to the duties of the Superintendent's office.

Mr. H. W. Mathews, now teaching in Gaskill District, will leave his school to attend the Normal in August, as will also Miss Myrtie Hudson, who is teaching in Garcia District.

Miss Trueholtz will succeed Miss Hudson at Garcia.

A new and elegant school has just been completed at Little River, and furnished with the best of school furniture.

Examination Papers.

The following papers were used for promotion from the first grades of the Sacramento schools to the High School, May, 1877 :

ARITHMETIC.

1. Express the following number by letters : 3,119,989. Divide 3,979 by 17, and deduce from the operation a general rule for long division.

2. Find the greatest common divisor and the least common multiple of both terms, and reduce the fraction $\frac{945}{4620}$ to its lowest terms.

3. From the sum of $7\frac{7}{8}$ and $3\frac{7}{8}$ subtract $1\frac{19}{24}$, and divide the result by the product of $3\frac{1}{6} \times 2\frac{3}{4}$.

4. Give the rules for pointing off in multiplication and division of decimals, and explain the reasons.

5. Given the difference of longitude between two places, and the exact time at one of them, how will the corresponding time at the other be found? Explain the reason.

6. A and B can perform a piece of work in 5 days, B and C in 8 days, and A and C in 6 days; in what time can each of them do the work alone, and how long would it take them to perform the work together?

7. Bought a horse, buggy, and harness for \$500. The horse cost $37\frac{1}{2}$ per cent. less than the buggy, and the harness cost 70 per cent. less than the horse. What was the cost of each?

8. When a note payable in 60 days is discounted at the rate of 2 per cent. a month, what rate of interest is bank discount equal to?

9. A commission merchant sold consignments of cotton for \$5,640, and after deducting his commission and \$76.50

for expenses, he remitted to the consignor \$5,422.50 as the net proceeds. What per cent. was his commission?

10. There are two columns, one 70 feet and the other 50 feet high. There is between these a column 5 feet high, the top of which is 100 feet from the summit of the higher, and 80 feet from the summit of the lower. Required the distance between the tops of the two columns.

PHYSIOLOGY.

Bones—Classify the bones, the joints. State the use of the bones, of the joints. Compare the bones of the head of vertebrates.

Muscles—Define a muscle. Relative use of the bones and muscles. Use of tendons. Describe the muscles of birds, of reptiles.

Digestive Organs—Name the digestive organs. Describe the liver. Compare the mouth and the teeth of vertebrates. Describe the process by which food is converted into chyle.

Absorption—What is said of veins as absorbents?

Respiratory Organs—Describe the respiratory organs. Explain inspiration—expiration—composition of pure air. Describe the respiratory apparatus in amphibians.

Skin—Describe the different layers. What are the functions of the skin? of the hair? of the nails? What facts should be observed in selecting and applying clothing?

Circulatory Organs—Describe the heart. The plan of systemic circulation—of pulmonic circulation. Their relation to each other. Describe the blood in reptiles.

Assimilation—Name the secreting glands. Describe the four stages of secondary assimilation.

Nervous System—Describe the brain. State the importance of air, diet, exercise, and sleep as physical agencies.

Special Senses—Describe the anatomy of the organs of smell, of the organ of sight, of hearing, of the organs of taste, of the sense of touch.

The following were used in the first grades San Francisco schools for promotion to the High Schools :

GEOGRAPHY.

[9 questions, 50 credits. One question, 15 credits. 7 questions, 5 credits.]

1. Draw a map of California, and locate five important cities, the five rivers, two prominent capes, three largest lakes. (15 credits.)

2. Name two important towns of Nevada, two high peaks of the Sierra Nevadas, four bays on the coast of California, and two rivers of California flowing directly into the ocean.

3. (a) How may the Gulf Stream be traced throughout its course? (b) What is its average velocity? (c) What happens to it when it reaches the British Islands? (d) How is its effect upon atmosphere and climate in Western Europe visible to the eye? (e) Where is it most rapid?

4. Give the latitude of Cape Horn, Philadelphia, City of Mexico, Calcutta, and the northern boundary of Nevada.

5. Give in order the words of which the following are definitions, answering in complete sentences: (a) The path in which the earth revolves around the sun? (b) The line in which the earth and sky seem to meet? (c) Circles dividing the earth into two equal parts? (d) The extremities of the earth's axis? (e) small circles parallel to the equator? (f) (1) Locate the following countries: Ecuador, Spain, Abyssinia, Afghanistan, Guatemala. (2)

Of what countries are the following cities the capitals : Teheran, Lisbon, Cairo, Rio Janiero, Edinburgh ?

8. State one important article imported from each of the following : Brazil, Tahiti, Sandwich Islands, China, Spain, France, Mexico, Cuba, Alaska, Washington Territory. (Arrange in parallel columns.)

9. Name the largest city in each of the following countries (in parallel columns) : England, Hindooostan, United States, Turkey, Austria, Prussia, Spain, Russia. (4 credits.) Give the population of two cities in your list. (1 credit.)

HISTORY OF UNITED STATES.

1. Name the first, the seventh, and the eighteenth President, and tell which Presidents died during their term of office.

2. In whose administration did each of the following events take place : (a) The purchase of Louisiana? (b) The breaking out of the Rebellion? (c) The admission of Texas? (d) The Whisky Insurrection? (e) The War with Algiers?

3. Name one noted event in the history of each of the following : Gen. Meade, Commodore Perry, Admiral Farragut, Commodore Decatur, Gen. Jackson.

4. For what was Alexander Hamilton especially noted?

5. (a) Which President was impeached? (b) Who was the author of the Compromise Bill of 1850? (c) What general commanded the Americans in the battles of Palo Alto and Buena Vista? (d) Who was general-in-chief of the American forces at the beginning of the Civil War? (e) Who commanded the Alabama at the time of her destruction?

6. (a) Name the first State admitted into the Union. (b) Name a State acquired from the Spanish government. (c) Name a State acquired from the French government. (d) Name the first State to rebel against the government. (e) Name the last territory acquired from a foreign power.

7. Give the dates of the following : (a) Close of the last war with England. (b) Close of the Rebellion. (c) The inauguration of Grant. (d) Admission of Texas. (e) Treaty of Guadalupe.

8. Name five distinguished American inventors, and the particular invention of each.

9. State the change that has taken place in the United States during the past century, in regard to number, area, and population.

10. Name five Indian chiefs prominently mentioned in American history, and state the section in which each lived.

SPECIAL QUESTIONS.

A correct answer to either of these will cancel one credit of failure.

1. What were the Sanitary and the Christian commissions?

2. What was the Thirteenth Amendment to the Constitution?

3. What was the amount of the public debt at the close of the Civil War?

4. Name two distinguished American historians, and two noted American poets.

5. Name two Catholic missionaries noted for their explorations in America, and state the general locality of the discoveries of each.

"What is *worth doing* at all is worth doing well." Will some reader please be kind enough to give the construction of "what," "at all," and parse the italicized words?

BOOK NOTICES.

THE JERICHO ROAD, a story of Western Life
By John Habberton, Author of "Helen's Babies," etc. Chicago: Jansen McClurg & Co.; San Francisco: A. Roman & Co.

When Mr. Habberton sat down to write the account of the funny little things he had witnessed in the daily life of Helen's babies, we doubt if he had really resolved seriously to devote his future days to literature. But the writing of that small 12mo seems to have precipitated him into the tide of authorship, and he, like Byron, awoke one morning to find himself famous. Now his 12mos. come with the regularity of a quarterly. Each one has a sharply pointed moral, and he means that it shall make its mark. He evidently has lived in a church atmosphere; but he does not teach theological dogmas. Jericho Road illustrates—in strong, pointed style—that if one desires to play "Good Samaritan" in this world, he had better do his part HONESTLY, else, like the horse-thief he'll *feel it in the air*, that there is "a witness mighty close at hand," or like "Lodge" he'll "wish he hadn't shot Binkle," or like the old Pharisee Squire that "the sin of bloodguiltiness is onto him," when, with Lem he is called into "that Court where turning State's Evidence won't save scoundrels."

THE SCRIPTURE CLUB OF VALLEY REST, or Everybody's Neighbors. By the Author of "The Barton Experiment," "Helen's Babies," etc. New York: G. P. Putnam's Sons; San Francisco: A. Roman & Co.

The Scripture Club of Valley Rest is a "Free Speech" class of thirty church-goers, having every shade of faith, doctrine, dogma, and unbelief, hardly any three agreeing on any one point, who meet every sabbath with the visionary idea of forming a UNION to discuss, *intellectually*, every doubtful question in the Bible. Each one fancies himself to be the attracting central power of said Union. It is a representative class, that well illustrates the folly of all such attempted Unions, either in religion, morals, politics, or social life. The author holds up this club to public view as on a fork, as specimen saintly-honest, meek-as-Moses, Valley-of-humiliation-men. Saints in their good clothes on Sunday, in their office-clothes on Monday as mean as dirt. It is an old picture seen every day. The club splits on the rock, Morals, when fetched up with a round turn to square their habits to the Sermon on the Mount. It was too prolific a topic, some member

figuring out that it would take just 300 years to get through the discussion at their rate of progress. So they give it up, concluding that it never was intended to apply to their daily business; that business is one thing, and religion quite another, and meant for Sunday only. The characters are homely Western Specimens, but sketched with strong charcoal lights and shades.

ESSENTIALS OF ENGLISH GRAMMAR, for the use of Schools. By W. D. Whitney, Prof. of Sanscrit, Yale College. Boston: Ginn & Heath; San Francisco: I. N. Choynski.

This is a small volume of 250 pages by a writer who ought to know what he is talking about. He is a Professor and master of several very ancient languages, and many of the modern tongues. Still the author says, that "a real understanding of English Grammar can be had by a pupil more surely and sooner in connection with his own tongue than any *where else* (with *any other*, we suppose he means) if his attention is first directed to what most needs to be learned." We, right here then, advise teachers to consult Whitney, if they wish to know what *most needs to be learned* in the first stages of the study. He brands the time-worn definition, "Grammar teaches us to speak and write correctly," as an error, and says, that "no one ever changed from a bad to a good speaker or writer by applying rules of grammar." He aims to give the *facts* only of the English language, without reference to other tongues, the usages of the language, omitting all discussion of the laws, and of nice, difficult, and disputed points, for later life, or for the mere student of the language. Several hundred English Grammars have been written, but Mr. Whitney acknowledges obligation to none of them, not even Brown, (which will astonish somebody we know), but turns to the German Edition of the German work on English Grammar by Maetzen, as containing the whole thing in a *German* nutshell. We wonder what *English* writer will ever dare to attempt to discount a German Grammarian in his own field. This volume is very clearly arranged, has a table of contents, is divided into eighteen chapters, taking up every essential topic, every subject paged and paragraphed completely, besides a full index, so that as a book of reference it is as distinct as could well be made. We modestly ask attention to this work by that small class who have been in a Brown study for the last quarter of a century.

A WOMAN HATER. By Charles Reade, author of *Peg Woffington, A Terrible Temptation, Hard Cash etc., etc.* New York: Harper & Bros. San Francisco: A. Roman & Co.

The title of this volume is not a cheerful and attractive one. We take up the book with the feeling that we cannot spend the time to go through two hundred closely printed pages, double columns, to find out how a man may be made, by circumstances, to hate all womankind, which would include his mother. We suppose there may have lived such creatures at some time and in some corner of the world, but we do not care to be introduced to them. Byron, "from his harem on the Adriatic," may sing charmingly to the ear of his hatred of men, but it requires much hard usage, bitter experience, brute courage, brazen-face, for a man in a Christian country in these days to hate womankind, and to go about telling people of it. But the title of the book is deceptive. The Squire is not such a hard case—he is cynical, he sneers, he satirizes sharply, but he does not hate as Childe Harold hates. He sits, not in weak humility, but nobly, at the feet of a woman, and listens, and takes lessons in life, because he has a generous nature at bottom; and she has an intellect that commands the treasury of Science, and is imperative. She dictates, because she feels she has the right; and he can but submit. There is a purpose revealed in the character of this Minerva—this strong, incisive, aggressive woman—that comes in good time. The educational institutions of England needed a lesson badly, and Charles Reade gives it to them in plain Anglo-Saxon terms, and with English pluck. Some American schools need this reproof also. We hope some "Rhoda" will rise up and read this story of a noble, high-minded, earnest, brilliant English-American girl-student to them, to make all decent men feel ashamed of the impertinence, indignity, contempt, impudence, scorn, heaped upon her because she is a WOMAN. The book is full of the wonderful surprises that the author knows how to weave into his stories so skillfully; and the characterization is strong, and sustained throughout. If there is an independent, aspiring, ambitious girl or young woman in California who has a PURPOSE that she is nursing, she will be greatly strengthened by reading this story.

THE AMERICAN CYCLOPÆDIA. Of all educational works published during the last few years probably the greatest is "The American Cyclopaedia," just completed by Appleton. This great work has done more to educate, than all the Treatises on Education yet issued. It awakens ideas. It stimulates thought. It strengthens the habit of investigation, and promotes real growth in the school-room. It supplements the teacher. The teacher only teaches *how to learn*, the Cyclopaedia is the store-house, *from which to learn*.

After the Unabridged Dictionary we believe "The American Cyclopaedia" should be in every school room, and the Library Fund can not be expended to better advantage than in the purchase of this magnificent library.

BOYS' AND GIRLS' DEPARTMENT.

Edited by Mrs. L. A. K. Clappe.

TOMMY'S COUSINS.

Tommy had been cross all day. He had pulled Robbie's hair, and taken his pea-nuts from him. He had sat down on Susie's lovely doll and flattened her nose, and he had put the kitten on top of the book-case. He had even been saucy and hateful to his dear mamma, when she asked if her little boy felt quite well, or if his long visit to the Aquarium yesterday had tired him. Instead of answering pleasantly, Tommy had hunched up his shoulders, shoved out his elbows, and snapped out, fiercely :

"No; I ain't tired, and I ain't cross either."

Every one was glad when bed-time came, and Master Tommy was taken upstairs.

"I do declare, Master Tommy, you'll turn into a nasty, snappy turtle, or a crab, some of these nights, when you're so cross," said nurse.

"Pooh!" said Tommy, "I wont."

"Well, something will happen; you'll see if it does n't. I've read of just such things coming to boys in books," said nurse, as she tucked him into his bed.

Nurse thought he had become very quite all at once, and as she bade him "Good-night," she wondered if he was up to more mischief. But he was already snoring as she reached the door.

As soon as she had gone down-stairs Tommy got out of bed, and felt under the bureau for the piece of mince-pie he had hidden there. He had taken it from the pantry shelf, that evening,—a good big quarter of a pie. It was rather dusty, but tasted good, and Tommy sat up in bed, and ate it all in ten bites. Then he curled

down among the blankets, and wished he was a crab.

"I'd crawl right down and bite nurse, now," he thought. "I wonder how it would feel to be a turtle, or a crab, or a—a ——"

"A very fine specimen indeed," said a gruff, strange voice.

Tommy looked around. Where was he? Where was his bed, and his room with blue paper on the walls?

"Oh, my! what is the matter?" cried Tommy. He was sitting upon a bit of sea-weed, in a great glass case full of water, and a red-nosed man in spectacles was looking at him.

"A fine specimen of fresh-water urchin," said the red-nosed man.

"I aint a urchin," cried Tommy, indignantly.

"See him open his mouth! How ugly he is!" exclaimed a small boy beside the red-nosed man.

Tommy looked around for something to throw at him, but right at his elbow sat a huge hermit crab, who stretched out four claws, and said :

"Shake hands, cousin! Glad to see you!"

"I'm not your cousin," said Tommy, drawing himself up.

"Oho! He says he is not my cousin!" squeaked the hermit crab, so loudly that all the skates came to see what was the matter.

"You're a horrid ugly thing!" screamed Tommy. "I saw you yesterday pinching a poor little crab, and poking your old claws into his shell. I'm not your cousin."

"Now, just hear that!" said the hermit crab, with a wicked smile. "Here is an urchin who pinches his little brother, pulls

his hair, and takes his pea-nuts away, and yet he declares he is not my cousin ! Nonsense ! Of course you are. Come along."

He was just stretching out his claws to drag Tommy off the bit of sea-weed, when two little sea-urchins came rolling along, and said :

" Why, here's cousin Tommy ! "

" Go 'way ! " exclaimed Tommy. " I never was such an ugly, prickly thing like a chestnut bur."

" Ugly, prickly thing, indeed ! " cried the sea-urchins. " Didn't you pain your poor mamma with your naughty, prickly temper,—you ugly little fresh-water urchin ! " And both the sea-urchins gave him great pokes with their sharp spiny sides, and then rolled away, laughing at his pain.

They had no sooner gone, than up came a whole family of thin little alligators, and with them a whole family of fat little seals, giggling, bouncing up and down, and eating mince-pie.

" Tommy, how d'ye do ? How d'ye do, Tommy ? " said they all.

They looked so mischievous, and so big, that Tommy began to cry.

" Cry, baby,—cry ! Haven't any pie ! " sang all the fat little seals and thin little alligators, jumping at him and trying to bite his toes, till Tommy was frightened half to death.

Just as he made sure they were going to eat him, something wonderful happened. A beautiful sea-horse, with a silver bridle, came floating down, led by the loveliest little mermaid that ever was seen. And as she came close to Tommy, she said :

" Poor Tommy ! Come with me. Mount my little friend here, and we will take you away from these tormentors."

So Tommy got upon the sea-horse's back, and he just fitted there nicely, which surprised him, till he remembered that since he had become a fresh-water urchin, he had grown very small.

They pranced away from the seals and alligators, and all the skates smiled pleasantly as they passed. Soon they came to the mermaid's house,—a large pink conch-shell, with sea-weed climbing over it, and a long avenue, marked by rows of pink sea-anemones, leading up to it. The sea-anemones bowed, and waved their fringes to the mermaid, and welcomed her home.

" I have here a poor little urchin who has been naughty, and has been punished; but now he will be good, and happy," said the mermaid.

Then they went into the conch-shell, and around and around, and up the spiral stairs, that were pink at every step, till at last the mermaid put Tommy into a little bed like a rosy pink sunset, and kissed him good-night.

" You won't want to get up and look for pie again, will you ? " said she.

" I just guess not ! " answered Tommy ; and then he fell asleep, while she sang to him songs about the sea.

When he woke up, the sunshine was streaming over him.

" I did think of giving him some paregoric, ma'am," nurse was saying. " But after a little while he stopped crying, so I did not get up."

" Why ! I must have dreamed it ! " said Tommy to himself. Just then he looked down and saw some pie-crust crumbs in his bed, " I don't know, though," he thought. " May be it was true. May be I really was—a—urchin." —*St. Nicholas.*

Isabel of Austria.

ANONYMOUS.

[It is related, historically, of the subject of the following lines, that for many months, her diseased imagination saw ever at her side, a Spectral Death which foretold her own. The editor has never seen the poem in print. She was a mere child when it was orally taught to her. Recalling her own admiration, she has placed it in this department, thinking that some pathetic voiced young girl, as impassionable as she herself once was, may like to exercise her dramatic powers upon it—Certainly it has the rare merit of not being worn as threadbare as most of the recitations of the present day.]

Beneath the bowers of Austria, imperial Presburg's pride,
With the noble-born and beautiful assembled at her side,
She stood beneath the Summer heaven, the light wind sighing on,
Stirring the green and arching boughs like dancers in the sun.
The beautiful pomegranates red, the snowy orange bloom,
The lotus, and the creeping vine, the rose's meek perfume,

The willow crossing with its green some statue's
marble hair,
All that could charm the exquisite sense, or light
the soul was there.

But she, a monarch's chosen one, leaned gloomily
apart,
With her dark eyes tearfully cast down, and a
shadow on her heart.
Young, beautiful, and dearly loved, what sorrow
had she known?
Were not all Austria's hearts and swords held
sacred as her own?
Was not her lord the knightliest in battle-field or
bower?
The foremost at the council-board, and in the
banquet-hour?
Was not his love as deep, as full, as his own
Danube's tide?
Then wherefore in the princely home weeps Isabel
the bride?

She raised her jeweled hand, and flung her veiling
tresses back,
Bathing its snowy tapering beneath their glossy
black.
A tear fell on the orange leaves, and gemmed
their snowy bloom,
While her princely robes shook fearfully above
her heart's deep gloom.
"Smile on! smile on!" she murmured low,
"while all is joy around,
Gay, trembling sunshine, stainless sky, soft air,
and blossoming ground:
'Tis well the light of heart should smile when
Nature's brow is fair,
And melody and fragrance meet, twin sisters of
the air.

But ask not me to join with you the beauties of
the scene,
The fountain's fall, mosaic wall, and tesselated
scene;
And point not to the mild blue sky, and glorious
summer sun;
I know now how very fair is all the hand of God
has done.
The sun, the sky, the hurrying cloud, the fountain
leaping forth,
The sweeping trees, the scented flowers, the dark
green robes of earth,
I love them still, but I have learned to turn aside
from all,
And never more my heart may feel their sweet
but fatal thrall.

O, God! to leave this fair bright world, and
more than all to know
The moment when the Spectre King will deal his
dreaded blow!
To count the days, the few short days of life, and
light; and health,
Between me and the loathesome tomb, the silent
home of Death!
And O, if knowing, if feeling this, I shudder at
my doom,
Let not thy frowning, O my God! lend darkness
to the tomb!

And I could love the noble one whose mighty
name I bear,
And closer to my bursting heart, his hallowed
image wear.

O, I could mark my sweet young flower, expanding
day by day,
And taste of that unearthly joy that only mothers
may!
But no! I may not turn aside, that voice is in my
ear!
The shadow lingers at my side, the death-wail
and the bier!
The cold and starless night of death, where day
may never beam,
The silence, and the loneliness, the sleep that
knows no dream.

Oh! I have borne my spirit up, and smiled amid
the chill
Remembrance of my certain doom, that lingers
with me still!
I would not cloud my child's fair brow, or let a
tear-drop dim
The eye that met my wedded lord's, lest it should
sadden him.
But there are moments when the gush of feeling
hath its sway,
The hidden tide of unarmed woe, nor love, nor
fear may stay.
Smile on! smile on! light-hearted ones, your cup
of joy is high!
Smile on! and leave the doomed of Heaven, to
weep, to fade, to die!"

A funeral chant was wailing through Vienna's
lofty pile,
A coffin, with its gorgeous pall, was born along
the aisle.
The banners of a royal race waved high above the
dead;
A mighty band of mourners came, the king was
at their head;
The youthful king, with mournful tread, and
dark and tearful eye;
He had not dreamed that one so fair as his young
bride would die.
And loud and high above the dead, the funeral
anthem rung,
"Mourn for the hope of Austria, mourn for the
loved and young!"

The wail went up from other lands, from valley
of the Hun;
Fair Parma with the orange bowers, and fields of
vine and sun.
The lilies of imperial France drooped as that
sound swept by;
The long lament of cloistered Spain was mingled
with the cry,
All wept the early stricken flower, and burst from
every tongue,
"Mourn for the dark-eyed Isabel! mourn for the
loved and young!"

Two excellent articles by S. S. Boynton
of Oroville, came to hand too late for pub-
lication this month. They will appear soon.

THE RULERS OF THE WORLD TO-DAY.

Dom Pedro Second ranks, by worth,
Among the wisest kings of earth ;
Ruling with a liberal hand
O'er Brazil, well favored land.

Cold Siberia's frozen coasts,
Trans-Caucasia's manly hosts,
Tributary from afar
Unto *Alexander* are—
Of the Russias mighty Czar.

Prussia's king extends his sway
O'er a mighty realm to-day.
Frederick William First is he,
Emperor of Germany.
This the scheme Count Bismarck planned :
One united Fatherland.

Austria's emperor still remains
King of wild Hungarian plains.
O'er Vienna's gardens gay
Francis Joseph's banners sway.

Battling for their native mountains,
Proudly have the Switzers stood.
'Neath the crimson of their banner
O'er the land of William Tell,
Now *Herr Herzog* ruleth well.

Abdul Hamid, Othman's sword
Wields, as Turkey's present lord.

Athens, oft in song rehearsed,
Owns as ruler *George the First*.

Fair Italia's sunny realm
Nevermore shall tyrants whelm.
On her seven hills enthroned,
Shall again her power be owned.
Gone the sway of priest and pope—
Victor Emanuel's her hope.

Stilled the Carlist's rebel battle—
Dumb the cannon, sheathed the steel ;
Over Spain, late rent and sundered,
Reigns *Alfonso of Castile*.

Louis First maintains his rank
In Lisbon on the Tagus bank.
France has *Marshal McMahon*—
Gone the proud Napoleon.
Belgium has *Leopold* ;
Holland, *William*, as of old.

On the ancient Vikings' throne,
Christian Ninth now reigns alone ;
And the Norsemen monarch call
Oscar, crowned in Odin's hall.

On Britannia's kingdom yet,
Lo ! the sun doth never set.
There *Victoria* reigns serene—
Noble mother, honored queen.

Here at home the people reign ;
Ours no crown, or courtly train.
Now the patriot *Hayes* doth stand
Highest servant of our land.—*St. Nicholas*.

Enigmas.—Rivers.

By High School Girls.

1. A lofty centre with valueless sides.
 2. A tropical fruit.
 3. A feminine diminutive.
 4. One of Othello's countrymen.
 5. What a drunken man goes on.
 6. A scent.
 7. A poet.
 8. A color and a liquid.
 9. To drop out.
 10. What a tyrant never has.
 11. A consonant.
 12. A remedy, a business abbreviation, and an American actor.
 13. A part of the foot, a tin mug, a metal.
 14. An article, the name of a month, a synonym of belt.
 15. A sheep, a small carpet, a means.
 16. A hue and "good by."
 17. A fish.
 18. A noise made by bees, and what we sometimes do to the door.
 19. To braid.
 20. A cascade.
 21. A personal pronoun, and a musical note.
 22. Thou canst.
-

Authors.

1. A negative.
2. A comparative degree.
3. To write, and a preposition.
4. To punish criminals by mob-law.
5. A tropical fruit.
6. A mechanical law.
7. What Don Quixote tried to be "a day after the fair."
8. Solves many a difficulty.
9. A skin of an animal.
10. Has its home in the air.
11. A consonant.
12. A hant.
13. A garment pertaining to friars.
14. A synonym of fast.
15. A pronoun and a noun. The pronoun is not always the noun, but the noun is always the pronoun.
16. The chief part of the body.
17. A large room.
18. Blood.
19. Merry.
20. The comparative degree of a synonym of enough.
21. A cold name.
22. A cunning animal.
23. An extremity of the body.
23. — of lightning ?
24. A synonym of meadow.
25. A diminutive of fairy.
26. What we must all become.
27. We could not live without him.

Metagrams.

1. Complete I am necessary to the life of the whole animal kingdom. Behead me, and I devour myself. Divide me, and my first half is myself; my second half a preposition.

2. Complete I am beauty of motion. Behead me, and I am what sporting men enjoy most. Behead me again, and I am what gamblers delight to receive. Behead me a third time, and I am a consonant.

Plant in the Spanish Garden.

1. A fashionable author. 2. A man in search of a rich wife. 3. A young girl's head. 4. Gen. Jackson. 5. Immortality. 6. A cobbler. 7. The second personal pronoun. 8. Flour and yeast. 9. A hundred years. 10. Gall and honey.

Answers to Enigmas in July Number.

1. Himalaya. 2. Altai. 3. Pyrenees. 4. Carpathian. 5. Snow. 6. Ural. 7. Atlas. 8. White. 10. St. Elias. 11. Fremont's Peak. 12. Cotopaxi. 13. Saddle-Back. 14. Katahdin. 15. Holyoke. 16. Laurel. 17. Chestnut. 18. Cumberland. 19. Catskill. 20. St. Helen's. 21. Cantabrian. 22. Bohea. 23. Cevennes. 24. Kilimandjaro.

Anagrams.

1. Cleopatra. 2. Answer not received.

Metagrams.

1. Hope. 2. Charity.

Names of Flowers.

1. Pennyroyal. 2. Crocus. 3. Ivy. 4. Flox. 5. Sage. 6. Blackberry. 7. Currant. 8. Passion flower. 9. *El Espiritu Santo*. 10. Mace.

Names of Flowers in May and June Numbers.

1. Daisy. 2. Giant of Battler Rose. 3. Fox-glove. 4. Lady's Slipper. 5. Love lies bleeding. 6. Laurestina. 7. Pansey. 8. Agrippina Rose. 9. Wallflower. 10. Narcissus.

1. Pride of the Meadow. 2. Mayflower. 3. Jack in the Pulpit. 4. Ragged Robbin. 5. Crowfoot. 6. Beet. 7. Pink. 8. Mint. 9. Catnip. 10. Four o'clock.

THE PERPETUITY OF THE UNION.

Extract from an Oration delivered in San Francisco, July 4, 1877,

BY HENRY GEORGE.

So far from this Union necessarily falling to pieces from its own weight, it may, if we but hold fast to justice, not merely embrace a continent, but prove in the future capable of a wider extension than we have yet dreamed.

The crazy king, the brutal ministers, the rotten Parliament, the combination of tyranny, folly, corruption and arrogance that sundered the Anglo-Saxon race, is gone, but stronger and stronger grow the influence of the deathless minds that make our common language classic. The republic of Anglo-Saxon literature extends wherever the tongue of Shakespeare is spoken. The great actors who from time to time walk this stage, find their audiences over half the globe; it is to one people that our poets sing; it is one mind that responds to the thought of our thinkers. The old bitternesses are passing away. With us the hatreds, born of two wars, are beginning to soften and die out, while Englishmen, who this year honor us in honoring the citizen whom we have twice deemed worthy of our foremost place, are beginning to look upon our Revolution as the vindication of their own liberties.

A hundred years have passed since the fast friend of American liberty—the great Earl Chatham—rose to make his last appeal for the preservation, on the basis of justice, of that English-speaking empire, in which he saw the grandest possibility of the future. It is too soon to hope that the future may hold the realization of his vision in a nobler form than even he imagined, and that it may be the mission of this republic to unite all the nations of English speech, whether they grow beneath the Northern Star or Southern Cross, in a league which, by insuring justice, promoting peace, and liberating commerce, will be the fore-runner of a world-wide federation that will make war the possibility of a past age, and turn to works of usefulness the enormous forces now dedicated to destruction.

THE PACIFIC SCHOOL AND HOME JOURNAL.

VOL. I.

SAN FRANCISCO, SEPTEMBER, 1877.

No. 7.

THE NORWEGIAN LEMMING AND ITS MIGRATIONS.

BY W. DUPPA CROTCH, M. A., F. L. S.

Among the many marvelous stories which are told of the Norwegian lemming (*Myodes lemmus*, Linn.), there is one which seems so directly to point to a lost page in the history of the world, that it is worth a consideration which it appears hitherto to have escaped. I allude to the remarkable fact that every member of the vast swarms which periodically almost devastate Norway perishes voluntarily, or at least instinctively, in the ocean. But as among my readers some may not be familiar with the lemming, a brief description of the animal itself would not be out of place. It is a vole, like our short-tailed field mouse, very variable in size and color; the claws, especially on the fore-foot, are strong and curved; the tail is very short, the ears scarcely visible, and the bead-like, black eyes seem always to notice objects above them rather

than those in any other direction. During the summer these animals form their nests under stones, usually betraying their habitations by the very care which they take to keep them sweet and clean. In winter, however, they form long galleries through the turf and under the snow in search of their food, which is exclusively vegetable; and it is at this time that those ravages are caused which have led the Norwegians in former times to institute a special form of prayer against their invasions. There are several species of lemming, easily recognizable, and with well-marked geographical range; but it is to the Scandinavian species only that the following old description applies: "It lives on the shoots of the dwarf-birch, reindeer lichens, and other mosses; it hisses and bites; in winter it runs under the snow; and about every tenth year, especially before an extremely severe winter, the whole army of animals, in the autumn and at night, migrates in a direct line." According to Olaus Magnus

they fall from the clouds; and Pennant narrates that "they descend from the Kjolen, marching in parallel lines three feet apart; they traverse Nordland and Finmark, cross lakes and rivers, and gnaw through hay and corn stacks rather than go round. They infect the ground, and the cattle perish which taste of the grass they have touched; nothing stops them—neither fire, torrents, lakes, nor morasses. The greatest rock gives them but a slight check; they go round it, and then resume their march directly without the least division. If they meet a peasant they persist in their course, and jump as high as his knees in defense of their progress. They are so fierce as to lay hold of a stick and suffer themselves to be swung about before they quit their hold. If struck they turn about and bite, and will make a noise like a dog. Foxes, lynxes, and ermines, follow them in great numbers, and at length they perish, either through want of food or by destroying one another, or in some great water, or in the sea. They are the dread of the country, and in former times spiritual weapons were exerted against them; the priest exorcised them, and had a long form of prayer to arrest the evil. Happily it does not occur frequently—once or twice only in twenty years. It seems like a vast colony of emigrants from a nation overstocked, a discharge of animals from the northern hive which once poured forth its myriads of human beings upon Southern Europe. They do not form any magazine for winter provision, by which improvidence, it seems, they are compelled to make their summer migration in certain years, urged by hunger. They are not poisonous, as vulgarly reported, for they are often eaten by the Laplanders, who compare their flesh to that of squirrels."

M. Guyon disposes of the theory that these migrations are influenced by *approaching* severe weather, since the one witnessed by himself took place in the

spring; also the superabundance of food during the previous autumn precluded all idea of starvation. He therefore adopts a third view, that excessive multiplication in certain years necessitates emigration, and that this follows a descending course, like the mountain-streams, till at length the ocean is reached. Mr. R. Collett, a Norwegian naturalist, writes that in November, 1868, a ship sailed for fifteen hours through a swarm of lemmings, which extended as far over the Trondhjems-fjord as the eye could reach.

I will now relate my own experience of the lemming during three migrations in Norway, and in a state of captivity in England. The situation of Heimdalén, where I reside during the summer months, is peculiarly well suited for observation of their migrations, lying as it does at an elevation of 3,000 feet, and immediately under the highest mountains in Scandinavia; and yet, excepting during migration, I have never seen or been able to procure a specimen. It was in the autumn of 1867 that I first heard the peculiar cry of the lemming, guided by which I soon found the pretty animal backed up by a stone, against which it incessantly jerked its body in passionate leaps of rage, all the while uttering a shrill note of defiance. The black, bead-like eyes seemed starting from their sockets, and the teeth shone white in the sunlight. I hastily snatched at the savage little creature, but it sprang completely round, fastened its teeth sharply in my hand, and taking advantage of my surprise escaped under a large stone, whence I could not dislodge it. A Norwegian friend who accompanied me by no means shared my feelings of satisfaction at the sight of a lemming. "We shall have a severe winter and no grass next spring, owing to those children of Satan!" was his comment on the event. However, it was many a month before I saw another; then, on lifting a flat stone, I found six in a nest

of dried grass, blind, and apparently but just born. In a few days the whole fjeld became swarming with these pretty voles; at the same time white and blue foxes made their appearance, and snowy owls and many species of hawks became abundant. My dogs, too, were annoyed by the rash courage of the new comers, which would jump at their noses even when slowly drawing on game, so that they never spared a lemming, though they never ate them till last year, when I observed that they would eat their heads only, rejecting the body, although they devoured the common field-mouse to the end of his tail. As the season advanced and snow covered the ground, the footprints and headless carcasses told plainly how hard it must be for a lemming to preserve its life, although there can be no doubt that its inherent pugnacity is its worse enemy. In this country we fail to conceive how much active life goes on beneath the snow, which in more northern latitudes forms a warm roof to numerous birds, quadrupeds, and insects, which are thus enabled to secure an otherwise impossible sustenance. At the same time, as I have already noticed, a fearful struggle for existence is carried on during the long autumnal nights, before the snow has become a protection rather than a new source of danger to all save predaceous animals. It was a curious sight, when the whole visible landscape was an unbroken whiteness, to see a dark form suddenly spring from the surface and scurry over the snow, and again vanish. I found that some of the holes by means of which this feat was executed were at least five feet in depth, yet even here was no safety, for the reindeer often kill the lemmings, by stamping on them, though I do not believe their bodies are ever eaten.

During the autumn I noticed no migration, or rather there was only an immigration from some point to the eastward, and in the subsequent migrations of 1870-'71,

and 1875-'76, I still found the same state of things. The animals arrived during early autumn, and immediately began to breed; there was no procession, no serried bands undeterred by obstacles, but there was an invasion of temporary settlers, which were speedily shut out from human view by the snow, and it was not till the following summer that the army, re-enforced by five or six generations, went out to perish like the hosts of Pharaoh. On calm mornings my lake, which is a mile in width, was often thickly studded with swimming lemmings, every head pointing westward; but I observed that when my boat came near enough to frighten them they would lose all idea of direction, and frequently swam back to the bank they had left. When the least wind ruffled the water every swimmer was drowned; and never did frailer barks tempt a more treacherous sea, as the wind swept daily down the valley, and wrecked all who were then afloat. It is impossible not to feel pity for these self-haunted fugitives. A mere cloud passing over the sun affrighted them; the approach of horse, cow, dog, or man, alike roused their impotent anger, and their little bodies were convulsively pressed against the never-failing stone of vantage, while they uttered cries of rage. I collected 500 skins, with the idea of making a rug, but was surprised to find that a portion of the rump was nearly always denuded of hair, and it was long before I discovered that this was caused by the habit of nervously backing up against a stone, of which I have just spoken. As this action is excited by every appearance of an enemy, it seems surprising that a natural callosity should not take the place of so constant a lesion; possibly, however, the time during which this lesion occurs is too short to cause constitutional change.

Early in the autumn, and just a year after their arrival at Heimdalén, the western migration commenced anew. Every morn-

ing I found swarms of lemmings swimming the lake diagonally, instead of diverging from their course so as to go round it, and mounting the steep slopes of Heimdals-ho, on their way to the coast, where the harassed crowd, thinned by the unceasing attacks of the wolf, the fox, and the dog, and even the reindeer, pursued by eagle, hawk, and owl, and never spared by man himself, yet still a vast multitude, plunges into the Atlantic Ocean on the first calm day, and perishes with its front still pointing westward. No faint heart lingers on the way; and no survivor returns to the mountains.

There appears to have been a difficulty in keeping these restless creatures in captivity, both because they escape through incredibly small apertures, (generally, however, dying from internal injuries thus caused), and because they will gnaw through a stout wooden cage in one night, and devote every spare moment to this one purpose, with a pertinacity worthy of Baron Trenck. At all events, few have been brought alive to this country, and none have survived. At present (February, 1877) I have one which I have preserved since September last, defeating his attempts at escape by lining the cage with tin, and allowing him a plentiful supply of fresh water, in which he is always dabbling. With the approach of winter all his attempts to escape ceased, and I now always take the little stranger for an airing in my closed hands while his bed is being made and his room cleaned out. He seems to like this, but after a few minutes a gentle nibble at my finger testifies to his impatience; and if this be not attended to, the biting progresses in a *crescendo* scale until it becomes unbearable, although it has never under these circumstances drawn blood. My little prisoner shows few other signs of tameness, but the fits of jumping, biting, and snarling rage have almost ceased. I expect, however, that, with the return of spring, the migratory impulse will be re-

newed, and that he will kill himself against the wires of his cage like a swallow.—*The Popular Science Monthly*.

The conclusion of this article, treating of "Whence Do the Lemmings Come"? "Whither Do They Go"? "Why Do They Migrate At All"? will be published in our next issue.—[Ed. Journal.]

HIGH-SCHOOL STUDIES IN GRAMMAR-SCHOOLS.

BY A. L. MANN.

The distinction between grammar school and high school studies is tolerably well marked, but it should be even more clearly defined.

In arithmetic, for example, the grammar schools should concentrate their efforts upon accuracy and rapidity in the ordinary operations, and restrict theoretical work to the upper grades, and even there not allow demonstration and explanation to take the place of certainty. It is no uncommon thing to find boys who have been admitted to the high school, on a superficial knowledge of many subjects, who cannot be trusted in Addition and Long Division. The demonstration of the principles of fractions, of the square and the cube root, belongs properly to high-school work, as high-school pupils are of an age to understand such things, and a knowledge of Algebra and Geometry, is necessary to their rational treatment.

Consider for a moment one of the simpler analyses, laid down in our City "Manual" for the instruction of third-grade pupils. "Divide two-thirds by three-fourths; two-thirds divided by one equals two-thirds; two-thirds divided by three, equals two over three times three or two-ninths; but the true divisor is only one-fourth of three; hence the quotient is four times too small and must be multiplied by four; thus two-ninths multiplied by four equals eight-ninths. This is the same as

inverting the terms of the divisor and proceeding as in multiplication." Now, this demonstration simple as it appears to mature minds, I venture to say, cannot be given correctly and understandingly by one in ten of the members of the junior classes in our high schools,—yet it must be taught to third-grade pupils. And it is done—not by any slow and rational process, developing the powers of abstract reasoning, but as it were, by a surgical operation. The top of the skull is removed and the whole thing introduced bodily into the brain, where it acts as foreign matters generally do—producing mental inflammation and distress. Now, we feel that this is matter of sufficient difficulty for high-school pupils, and with them it may be made a valuable exercise in the arts of reasoning and expression.

With deference to the opinions of those who are more directly concerned, I would say that the subject of "Oral Instruction" needs remodelling and curtailment. So far as it serves to keep the minds of little children pleasantly employed, and so far as it gives hints to older minds of the extent of the field of knowledge, and the way in which interesting, and valuable discoveries may be made in its various parts by observation, reading and inquiry, it is, of course, invaluable. But it can never be made a substitute for the necessarily tedious process of mental nutrition and growth. The idea that an almost encyclopædic knowledge of mineralogy, comparative anatomy, natural history, and kindred subjects can be conveyed to young and undisciplined minds through the funnel of daily lectures, is too absurd to need refutation. Yet something very near this is attempted in our city schools at the expense of matter more unpretending, but more necessary for high-school preparation. It is a cardinal principle in education, subject to various qualifications, that knowledge is valuable, directly in proportion to the mental labor

required in its acquisition. It is of much more disciplinary value, as well as of more practical import, to be able to add a column of figures quickly and correctly than to find out in an "object-lesson" the characteristics of irridium, or the number of joints in a rat's tail.

The great educational need of the age is concentration. There is so much to be known, and it is all so precious, so well worth knowing, that we are dazzled by the treasures apparently within our grasp. We overload not only ourselves, but our children, and stagger on, "blind leaders of the blind." It has been well said that in this age we must have the "courage to be ignorant of many things." Do we not, as teachers, lack the courage to refrain from teaching many things that we may teach a few things well?

This point admits of further elaboration, but I wished merely to show that, in preparation for the practical duties of life, as well as for the more advanced studies of the high school, much that is included under "oral instruction" may be omitted, and left to be acquired in the old-fashioned way of patient study, either in a course of self-culture, or in the high school and university. Nearly the same may be said of theoretical grammar—sentence-analysis, and especially of word-analysis. I am convinced that fully one-half of the text-book in use, is in advance of the requirements and capacity of grammar-school pupils, and belongs to the work of the high school. "Words of learned length and thundering sound" are taken to pieces, put together, defined, and distinguished in a perfunctory way without understanding or profit. Latin and Greek roots are tumbled about by these little, semi-barbarous Saxons in such a disrespectful and reckless manner as fairly to make a scholar's "hair to stand on end." It seems to be a plain case of misdirected effort. From the first-grade papers on word-analysis, which I have seen during

the past eight years, I am certain that such a number and variety of helpless, ludicrous, and almost ingenious blunders could be collected, as would convince Prof. Swinton himself that his book belongs properly to the high school.

It seems, then, that in theoretical arithmetic and grammar, in oral instruction and word-analysis, work is attempted, and from the necessities of the case, imperfectly done in the grammar school, which should properly be included in the high-school curriculum. The application of these remarks to ungraded schools is obvious enough. Do not sow seed before the ground is well prepared. Above all, do not expect to raise too many crops simultaneously from the same little mental garden-patch. That much-maligned individual who thinks that education should be confined to the three R's, sadly needs a hearing at the present time.

CONCERNING SCHOOL LIBRARIES.

BY CHAS. H. SHINN.

By a provision on the whole good, though often abused, ten per cent. of the State Fund is annually set aside for the use of Libraries. This money is not always wisely spent, a miscellaneous assortment of books, not on the State List, being sometimes bought. I have known the confiding trustees of a district without Dictionary or Cyclopaedia, to purchase the "Pirate's Own," "Language of Flowers," and "Complete Horse Doctor"; from which it may be inferred that in the course of time their library became a monument of misapplied effort!

In the hands of the skillful teacher, a well selected library may give awakening minds the first taste of genuine literature, and arouse a love for the best works of the best men. It is the purpose of this article

to show how libraries should be used, and how built up to a point of influence.

In order to make the library a factor of improvement, its connection with the daily work of the school must be sharply defined. It is the duty of the teacher to see that the books procured are used in a legitimate way, and so as to insure the greatest benefit. Beyond doubt a course may be prescribed, and enforced, for the older pupils. Beyond doubt, also, single books may be given to each member of a class successively, and a discussion required when all have completed the book. Whoever uses a well-chosen library thoughtfully, and expresses the results in the form of notes, is gaining a culture which our schools have no right to neglect. But let us, in the name of usefulness, protest against hap-hazard collections dignified with the name of libraries; and hap-hazard drawing of books marked by spasmodic reading on the part of a few, and lazy indifference on the part of the many.

If we would have a working library, the selection of books should mainly depend on the teacher, who is supposed to know the wants of the school, and also to be in some degree familiar with English literature. But it is often wise to interest the entire school in this question. If the subject can be discussed in bright, conversational style; if lists are called for, and reminiscences of delightful books awakened; if all, even to the youngest, are made to feel that this is "our" library—the result will be unity and interest beyond expectation. I remember that once, in a country school, a casual remark about the first Napoleon, led to the marshalling of rival authorities, and discussions at home and abroad followed, until the entire district was aroused on the subject, and every child had an opinion. I shall not soon forget how, one recess, whilst resting under the willow beside the rusty and dripping pump, Willie D—, a bright lad of twelve, said to me very

positively, "But, Sir, I think we ought to worship Napoleon, because—" Here one of the girls objected, and a wordy battle began. Willie maintained his proposition manfully, but justice compels me to state that she carried too many guns for him.

Let us see precisely what we require. The model library must have some weight; it must be an authority in the school-room. Not dull books, written by men who did not die soon enough, nor works of mock-sentimentalists, nor controversial books, nor systems of theology; but just those books in which the latest and best information can be most readily found. Briefly, the first needs of a library are a Webster's Unabridged, a Cyclopædia, either Johnson's, or Appleton's, and a large Atlas. The volumes of the State Geological Survey are very valuable.

Next it will be well to have Gray's Structural Botany, Silliman's Physics, a large work on grammar, Mætzner's preferred, some of the Science Primers, Half-hours with Insects, and a few volumes of the International Science Series. These are to furnish material for the teacher's talks and exercises. Walter Smith's Manual of Drawing should be included.

A decided veto should be put upon the purchase of minor and obsolete text-books. It is a sad thing to find the shelves of a library crowded with ancient grammars, arithmetics, and readers, mystifying to poor teachers, and worthless to good ones. Every teacher should himself own a complete set of the books used in school, and study them, in connection with the latest authorities he can find. But the only text-books that it seems proper for a school to purchase are speakers and dialogue books, from which selections may be made for public occasions.

The model library is not only to be a reference, and authority, but also to be a sweet, refining influence. Be it remembered that in the public school are children

of every class, some of whom coming from forlorn and bookless homes, are apt to fancy that the highest thoughts of men, and their utmost expression, are contained in the well thumbed grammer, or Condensed History. If to these struggling ones, whose horizons are narrow, and whose future is problematic, some of that broader intellectual light which is the age's dower, can be given, it may be that the revelation will last, and widen all through their lives, making them better wives and husbands, better women and men. Herein is the joy and the worth of books: that they speak, deny, awaken, change the currents of lives, are engines mightiest of all that men have contrived.

So this, the library we build, must be heedfully chosen, with something for every age. For the very youngest there are the Little Frankie books, and the Riverside Stories; but I know of nothing equal to the bound volumes of the Nursery; and, for children a little older, the bound volumes of St. Nicholas. For the pupils just beginning geography, there is a delightful little book called the "Seven Little Sisters." The Prudy books, Ainslee Stories, Miss Dolliver's "No Baby in the House," Andersen's Tales, and Grimm's Folk-stories, will please them all. The older boys and girls will want Paul and Virginia, Undine, The Ancient Mariner, Plutarch's Lives, Green's History of the English People, Tom Brown, Little Women, E. E. Hale's stories, Irving's Washington, and similar works. Among standard and collected works it is well to take only the best examples of each author's style. Bacon's Essays, Cooper's Leather Stocking tales, Dickens' Oliver Twist, Pickwick, and David Copperfield, Irving's Alhambra, and Knickerbocker, something from Emerson, Hawthorne, and Macdonald, a stray volume of DeQuincey, Shakespeare, Tennyson, Longfellow, and Whittier, of course—in some such way the best choice will be made.

No book should go into the library which the teacher has not read, or does not mean to read as soon as possible. Only the best book of its class should be tolerated, and good editions bought. The books must be kept in good order, and continually referred to, used as authorities, esteemed as friends. And if these authorities sometimes pinch the teacher, don't object. The schoolroom is to educate careful men and women, full of power, dignity, freedom, and expression, conversant with the leading events of history, lovers of a pure literature—but, above all, honest and independent thinkers.

TEACHERS' EXAMINATIONS.

BY A. H. McDONAAD.

That the present method of examining candidates who desire to become teachers in our Public Schools, is much superior to the method in vogue in the year 1860, no one doubts. Then all applicants passed an oral examination. At the most but two or three questions could be asked of any applicant, in any study, when the class was large, as was usually the case. Shortly afterwards, written took the place of oral examinations, since then going to the other extreme, with little or no oral examination. So that, all that is sought to be ascertained at present, is whether the applicant has the necessary education to entitle him to a certificate, regardless of experience in teaching, or that other greater qualification—the knowledge of imparting instruction. The young lady or gentleman, fresh from our academies and colleges, can with ease secure the highest certificate, though totally ignorant of the science of teaching, while the old veteran teacher, who cannot get his first-grade county certificate renewed, may fail to pass the examination required. In fact, experience, successful experience, appears to be at a dis-

count, since it is not taken into any consideration to procure a certificate. The last Legislature, for some unaccountable reason, repealed the power of Boards of Examination to renew first-grade county certificates, and restored the hitherto forbidden prerogative of renewing second and third grade county certificates. It would seem as though it were intended to put a premium upon second-class teachers.

No one does, or can, regret that the educational qualification of teachers is raised to a higher standard than formerly, yet it should not be considered the all-important and only qualification. How to avoid it in our present system of examinations is the difficulty. Our State Legislature will meet the coming winter, and I have no doubt but our worthy State Superintendent of Education will have good and, perhaps, ample amendments prepared which, if enacted, will remove some of the difficulties complained of. Since discussion is about the best method of bringing about reforms, I propose to make one or two suggestions upon this question.

1st. I would have the State Superintendent appoint some known and well qualified educator a member of each County Board of Examination, whose particular duty it would be to examine and pass upon each candidate's knowledge of the science of teaching, said knowledge to be principally ascertained by the examiner, while the applicant was actually engaged teaching a class in some two or more studies during the examination. Complete success in such oral examination, to be equivalent to twenty-five per cent. of the maximum number of credits required for the whole examination; or,

2d. Let State examinations be held in four, six, or even ten central parts of the State, presided over by the members of the State Board of Examination, or by prominent educators of the State appointed by the State Superintendent; or,

3d. Let none be entitled to a first grade State certificate, but such as can produce certificates of successful experience in teaching of, at least, three years.

The latter method is adopted in some States, and in some parts of Canada, yet I am of the opinion that the first method would be the best, wherever a suitable person could be appointed as indicated.

THE EDUCATIONAL INFLUENCE OF ISLAMISM.

BY EUGENE LAWRENCE.

But the chief achievements of the Arab teacher were to be in the airy realms of letters, and in that world of pure science from which a Newton and a Galileo were to gain an insight into the mightiest principles of nature, from which a chemical transformation was to carry thought from land to land and create the novel powers of mechanics. And the wild chant of the Koran may be said to be the most practical of poems, since it gave to men chemistry and mathematics. Every Moslem was taught to labor by the descendants of the mercantile Arabians; a free school was planted by every mosque; and for four centuries the keen and subtle intellect of an industrious and inquisitive race was directed to the pursuit of science. It is scarcely necessary to recall their colleges, libraries, and schools that sprang up under the care of the literary yet semi-barbarous tyrants of Bagdad and Cordova; but the results of this period of study are so memorable as to deserve to be ranked among the most valuable of human labors. The Moslems gave themselves with such ardor to the examination of the laws of nature as to invent the science of chemistry; they enlarged or revived algebra; they restored medicine to a scientific rank; and so infinite and so wonderful were their various inventions and discoveries that by their contemporaries in France and England

they were uniformly looked upon as magicians and sorcerers. No one but Satan, William of Malmesbury and his monkish authorities tell us, could produce the strange machines, the curious books, and the fearful powers of the Arabs. The finest intellects of early Europe naturally turned to the Mahometan schools for instruction in elementary science; and Albert Magnus and Pope Sylvester II. learned from Spain the principles of arithmetic, geometry, mechanics, and chemistry, with which they astonished and awakened the barbarians of the North. Pope Sylvester, as the scholar Gerbert, had gained from the Arabs not only the secrets of science, but the art of teaching. His school at Rheims was attended by the son of Hugh Capet and the heir of the German Empire. The genius of Mahomet enlightened the two royal lines of Germany and France; Europe borrowed its science from Cordova and its literature from the amorous strains of Moslem poetry; and the mental supremacy of the Arabs of the tenth and eleventh centuries may be traced in the superstitious awe with which the priests and monks looked upon their own greatest scholars who had studied in the Arab schools. It was in the city of Seville, the center of magic and incantations, the chronicler relates, that Gerbert learned to surpass Ptolemy in the use of the astrolabe, Alcandraeus in astronomy, or Firmicius in astrology, that he acquired the art of calling spirits from the infernal world, or became admirable in arithmetic, astronomy, geometry, and music. These arts, we are told, he revived in France or Gaul, where they had become wholly obsolete. Otho of Germany and Robert of France were his disciples. But all this mental supremacy Gerbert had won by a compact with Satan, and from the wicked practices of the Saracens. By his Arab familiars he was able to discover hidden treasures and cover himself with fabulous wealth; and once, when he was Pope, he clove the earth

at Rome, and descended into a magnificent palace below, filled with gems and gold. Yet the guilty Pope was at last borne away by his familiar spirits, and his soul perishes in eternal tortures. It was thus that Arabic scholars of the eleventh and twelfth centuries appeared to the barbarous Europeans. But they held in their hands the keys of modern progress, and are the real ancestors of the Newtons and Galileos, the Fultons and Morses, of the era of invention. Without a Hegira, chemistry must have slumbered for ages, and the telegraph and the steam-engine, the printing-press and the free school, might have remained hidden among the secrets of nature until the twentieth century.—*Harper's Magazine for August.*

A WORD OF ADVICE.

BY S. S. BOYNTON.

We only propose to point out to our young friends who are just beginning their career of teaching how to avoid one stumbling block that besets a young teacher's path.

We do this with the less hesitation because we have never seen it noticed among the works on teaching and education.

The point I refer to occurs in teaching reading, and consists in the many references to mythology.

It may seem odd to select the study in preference to any other for young teachers, yet when we say that the selections usually seen in school readers contain more allusions to mythology than any other branch of study, except history, our reasons will be obvious.

A pupil generally dislikes a thing he cannot comprehend. Take one of the poets, Milton, for example. But few scholars can be induced to read his works, and the reason is obvious.

They are filled with biblical, historical,

and mythological allusions and references which boys and girls do not understand.

Children commonly know more about history and the Bible than they do about mythology, so that references to the latter study confuses them more than quotations or allusions to either of the other two branches of knowledge.

Now, if these blind points could be made clear to pupils by a teacher who was well informed in that study, they would read the selections with more pleasure and interest, would possibly wish to acquire a better insight into mythology, and through that obtain a love for ancient history.

Let me illustrate my meaning with a selection or two drawn from the leading poets. Suppose a class read the lines of Pope:

"Lord of earth and air,
O king! O father! hear my humble prayer!
Dispel this cloud, the light of heaven restore;
Give me to see, and Ajax asks no more;
If Greece must perish, we thy will obey,
But let us perish in the face of day."

The language is plain, but no member of the class can understand and appreciate the real merit of the lines unless he knows who Ajax was, and under what circumstances he utters the prayer.

Suppose now we explain in as simple a manner as possible what the pupil needs, something like this, for instance:

During the siege of the city of Troy, in ancient times, a tremendous conflict arose over the body of one of the Greek leaders named Patroclus. Ajax and Menelaus defended the body while the Trojans tried to capture it. Ajax wished to send to Achilles, another leader, for help; but at the moment the fight was at its height Jove, the god of the Greeks, enveloped them all in a dark cloud, and at this time Ajax makes his prayer. Notice how eagerly they glance at the lines again; see how they bring out the meaning of the passage, how naturally they read:

"Dispel this cloud, the light of heaven restore;
Give me to see, and Ajax asks no more."

This explanation must be simple; don't say a word more than is needed; don't attempt to give the pupils a lecture upon the subject, but tell them just enough to enable them to read the passage understandingly.

Some of our experienced teachers may smile at the idea of this explaining in detail just what to say, but there are dozens of young teachers who teach blindly from the want of examples how to teach. Numbers of excellent writers have written for teachers who already have fair ideas of their professional work, but the number of works are limited that will be of direct benefit to boys and girls who leave school one month to commence teaching the next. Boys and girls, we say, though their years may number from seventeen to twenty-one.

Now read this from Milton:

"As when Alcides from Oechalia crowned
With conquest, felt the envenomed robe and tore,
Through pain, up by the roots Thessalian pines,
And Lichas from the top of Oeta threw
Into the Euboic Sea."

Rather difficult, we think, for young folks to understand, and utterly incomprehensible to any one without a knowledge of mythology.

Here is another from the same poet, and equally difficult to comprehend.

"That Nysean isle,
Girt with the river Triton, where old Cham,
Whom Gentiles, Ammon call and Libyan Jove,
Hid Amalthea and her florid son,
Young Bacchus, from his step dame Rhea's eye."

Either of these become interesting to a class simply by giving a few words of explanation; but our young teachers cannot often give this from their want of mythological knowledge.

"The Isles of Greece! The Isles of Greece!
Where burning Sappho loved and sing,
Where grew the arts of war and peace,
Where Delos rose and Phœbus sprung."

"Where Delos rose," possibly half the scholars who have read those lines never heard any explanation of them. Let us explain those three words, "Where Delos rose."

A beautiful maiden, named Latona, beloved of Jupiter, but hated by Juno, and flying from her wrath, besought all the Aegean Isles to afford her a place of rest, but all feared the powerful queen of heaven; Delos, a floating island, alone consented to receive her. When Latona reached the island, Jupiter, with adamantine chains, fastened the island to the bottom of the sea, that it might be a more secure resting place for his beloved.

Castor and Pollux, the twin brothers, celebrated, among other things, as warriors, were believed to have appeared in later times taking part with one side or the other in hard-fought fields, and were said on such occasions to be mounted on magnificent white horses. To this Macaulay alludes when he says,

"Back came the chief in triumph,
Who in the hour of fight,
Hath seen the great Twin Brethren
In harness on his right."

All the poets allude, more or less, to mythology. Thus, Cowper's "Yardley Oak," Milton's "Hymn of the Nativity," and Tennyson's "Talking Oak;" all contain references to the talking oaks of Dodona.

Circe and her enchanted island are spoken of by dozens of authors.

Laocoön, Venus, Apollo are as common words as any that writers use, yet there are many pupils reading about them every day without anything like a just idea of what they mean.

Unless a boy remembers the story of the Trojans sailing to Italy, where Neptune stipulates with Venus for the death of Palinurus, the pilot who stood firm at his post while others slept, he will hardly appreciate these lines from Scott:

"O think how to his latest day,
When death just hovering claimed his prey,
With Palinurus's unaltered mood
Firm at his dangerous post he stood."

If you tell or read to a class the pleasing story of Arion, the musician, of his journey to Sicily, his contest for the singer's prize, his return on the vessel, the mutiny of the sailors, and his being cast into the sea where a dolphin carried him to the shore; they will appreciate such passages as:

"Even when as yet the dolphin which bore him
Through the *Ægean* Seas from pirates' view."—

[Spencer.]

"Meantime some rude Arion's restless hand
Wakes the brisk harmony that sailor love."—

[Byron.]

Some of the poetical allusions to mythological personages and incidents are very beautiful.

Tennyson in his "Palace of Art" writes:
"There, too, flushed Ganymede, his rosy thigh
Half buried in the eagle's down,
Sole as a flying star shot through the sky
Above the pillared town."

and Wordsworth says:

"Great God! I'd rather be
A Pagan, suckled in a creed outworn,
So might I, standing on this pleasant lea,
Have glimpses that would make me less forlorn;
Have sight of Proteus rising from the sea,
And hear old Triton blow his wreathed horn."

Many illusions are indirect and placed in such form that pupils of themselves would hardly notice them. Here is one from Byron.

"He who of old would rend the oak
Deemed not of the rebound;
Chained by the trunk he vainly broke
Alone, how looked he round."

This evidently refers to Milo, the noted athelete, who in passing through a forest, saw the trunk of a tree partially split open by wood-cutters, and attempted to rend it further, but the tree sprang together and caught his hands, in which condition he remained till he was killed by the wild beasts.

One more extract, from Longfellow, and we will leave this with the reader.

Orion a gigantic hunter, loved Merope, the daughter of King Cœnopian, and sought her in marriage. The king withheld his consent, and Orion attempted to gain possession of the maiden by violence. Her father succeeded in getting Orion drunk, and then deprived him of sight, and cast him out by the sea-shore. The blind hero followed the sound of a hammer till he came to the forge of Vulcan, who gave him a guide to the abode of the sun. By the sun-god his sight was restored.

Now after some short and simple explanation of this kind, let your class read "The Occultation of Orion," where he says:

"Down fell the red skin of the lion
Into the river at his feet.
His mighty club no longer beat
The forehead of the bull; but he
Reeled as of yore beside the sea,
When blinded by Cœnopion,
He sought the blacksmith at his forge,
And climbing up the mountain gorge,
Fixed his blank eyes on the sun."

We have given these extracts, to show how common are mythological allusions, and hope the young teacher will examine any of the poets with reference to this alone. Milton's "Comus" contains nearly forty references to mythology. "Childe Harold" averages one for every page, and other writers use them to a greater or less extent.

We trust what we have written, may be of some little service to those who are just beginning their work of teaching.

Moles render to the farmer and gardener very considerable service at little or no cost—the damage they do being more than compensated by the destruction of worms and grubs. When they have eaten all the grubs and worms in a certain place, they emigrate to another, and there repeat their gratuitous work.

DEPARTMENT RECORD.

BY D. G. INGRAHAM.

closed for the day, the matter may be further inquired into, coolly and calmly.

MY SCHOOLMATES.

BY ELISHA BROOKS.

"Through the shadowy past, like a tomb-searcher, memory runs," and resurrects the evil and the good. The good is buried so deep, however, that jackals tire before they reach it; and, verily, vice is more attractive in a tale, if not in deed, because we take a grim pleasure in hating. Injuries have a sting that rankles in the mind, and we cannot drown the memory, if we would.

I wish I could forget the buffettings and the gibes of that bully of our school. I have long since forgiven him, because he looks out through prison bars. He was the pet of what they called society, and married the belle of the town. I can see his cream-colored kid gloves yet; they were a revelation to me. When he brushed haughtily past my cabin, I had to feel around to see if I was there. His crime—never mind that now; poor fellow, he lacked the balance-wheel. His tastes were superfine, and his salary followed hard in the same track.

Ladies'-men—two of them: tall, straight, handsome; the down was just roughing their upper lips, their hair parted naturally in the middle, and the girls loved to fondle them, and they liked it—bah! One of them is awakened from his bed of straw now by the creaking of an iron door; and when he next shall dance with girls, his boots will be infected with the creaking—a gray-haired beau. Sowing his wild oats, he said; but he never thought of the reaping. The other, too imbecile and cowardly for open crime, and too indolent to work, "strikes" each new acquaintance for a loan until "to-morrow," then steals on tip-toe, in the darkness, to that same friend's room, and steals away. Free lunches vanish when

It is often difficult for a busy teacher to keep a just and accurate record of the conduct of his pupils. In order to be just, a record *must* be kept. But it often happens that some misdemeanor occurs at the teacher's busiest moment. If he takes notice of it sufficiently to make a record, the continuity of his instruction, or of the class's recitation may be broken. He may so notice the misdemeanor as to disturb the whole school; or he may, by taking no notice of it, invite its repetition. It takes some little time for the teacher to open his record-book or roll, find the name of the offender, find the day of the week, and place the mark just where it belongs. The time thus lost doubles the annoyance. Then, if the roll is open for inspection, it is a constant source of jealousy. To obviate some of these difficulties, I have adopted the following plan, and find it works well. On the desk before me is placed a small ballot-box (an empty crayon box usually), into which may be dropped a ticket bearing the name or initials of the offender. It requires but an instant to make this record. If the misdemeanor be slight, one ticket may be dropped; if more serious, two, or one with a figure to indicate the degree. I have found the offender is generally watching to see if he "votes," and takes the hint. The box is sealed, kept in the teacher's drawer to avoid the possibility of "stuffing," and opened on the last Friday of every school month. From this secret record the monthly report of deportment is made up. If the offense be of a serious nature, demanding especial rebuke, or possible punishment, then let the exercises come to a standstill until a record is made for the day only, and when the session has

he appears. When his "to-morrow" comes for settlement, he'll pay in coin that has a tangible ring. That ring will cool his fevered pulse, and lead him, *nolens volens*, here and there. He is forging the coin now.

One of those girls asked me to escort her to a singing-school one evening. It was an awful request, and I took a day to consider it. I consented finally, and fitted myself out in splendor at a Cheap John store: new blue overalls, well starched, price six bits; white shirt, with standing collar; (my neck was always short), yellow vest, and coat with Sunday tails. The whole expense was fifteen dollars; but it was a good investment, and in a good cause, for I looked "some." I had to curtail the luxuries of my table for months afterward to bring the balance right. I paid fifty cents for a looking-glass, greased my hair, and combed it down smooth, then knocked at her door at the appointed hour. I was ushered into a room with a carpet on the floor, which I was obliged to step on. I was dazzled by the splendor. Hair-cloth furniture, a piano, a what-not, and a table with carved legs. My head swam with dizziness; and, while waiting for her to appear, my heart knocked louder than I did to get out and skulk away. When she entered the room my blood coursed backward for a little space. I took one edge of the sidewalk and she the other, when we started; but she had invited me for mischief, so she boldly took my arm.

O, ye little stars that twinkle in the firmament! My head seemed to be among them, and I was dodging them. I stumbled badly, because there was no elasticity in my step, I learned to sing that night; but—I ask your pity now—when we broke up she took the arm of one of those handsome — I am sorry he is in prison. My friends pitied me, the teacher pitied me, the girls pitied me, and she pitied me afterward. Will some one please to kick

me now? Never mind, she is dead to society. Pity her now. Girls, don't treat a clodhopper so!

One evening I was sitting by a stream, bathing my blistered feet, and resting from a journey of thirty miles during a hot day, when a schoolmate drove by with a handsome team. The cruel taunt he gave me when I asked him for a ride over the remaining seven miles of my journey will never smoulder. It has given me an interest in his course. His parents were rich, and he was sent to college.

He returned with good prospects; but he is now the "gutter-snipe" of the mountains, the veriest wretch that wakes from his drunken sleep to beg a glass of rum. And no wonder; a man who dared to decline an invitation to drink in those days was in danger of violence, and this one was a "jolly good fellow." My angel mother early made me hate the bowl, and the enemies were many and bitter that I made by saying "no," It was curious to see the look of pitying wonder and contempt with which a declination was received. I have been seized by ruffians, dragged to the bar, and commanded, with curses, to drink.

The gambling-table was an institution then, and even a beardless boy kept a faro bank to gather in the stray coins of his fellows. I ventured once to hazard a quarter at his bank, and lost it. He returned it to me on my promise never to bet again; but I "planked" it on another card. Then he arose, drew his pistol, and preached me an awful sermon. The inconsistency of his warning me away from his own table struck home; and whenever I see a game I hear that youthful gambler saying, "You had better keep away." His swagger and bravado hid a kindlier feeling that he was ashamed to own, although it would explode when he was off guard. I wonder where he is now? On the side of honor, honorable, let us hope. Bret Harte may im-

mortalize him yet. His only name was "Bill," and no one knew but he sprang spontaneously from the gravel of Feather River.

Across the glass now flits a face that changes hate to pity. He wore good clothes, that his father paid for, and he told me I smelled of the cow-yard. He called me a cowherd, and did much to sour the "milk of human kindness" in me. I saw him a year ago in the mountains, and urged him, in vain, to come into the parlor and join us in a song. The tables were turned, and he was a cowherd; in this table-tipping country how often they turn. A few months after that the stage was robbed, and he went in chains to a dungeon.

"Ah, Mr. Editor, "you've set me talking, sir. I'm sorry." Do you think we were all vagabonds? The list is not exhausted yet; but let us seek the sunshine. Already the cloud lifts, as I recall the bright, honest eyes and kindly smile of two playmates, who took no pleasure in torture. How truly is the "child the father of the man;" one is now a banker, and people are obsequious as they "bend the pregnant hinges of the knee." The other's soul was stalwart as his body. Brawlers learned to skulk when his horny hand was raised. Toil hardened his hand and freed his soul. He earned his nickname, "Horn," in tossing curs that sneaked in packs, and came howling to the attack of a solitary traveler. He is now in the Senate, and the loss of the rough "r" leaves Hon. as his title.

Boys, the path to honor branches from the path to ruin long before the beard comes,—away back, before you learn that your father is the "Old Man,"—and the wall between is very high. If you take the left hand, read on the tombstone that looks to you so like a triumphal arch:—

"All hope abandon, ye who enter here."

You never can climb the wall, that grows

into a mountain so soon when you discover your mistake. Ah, but boys, don't read sermons; then men may find you when pigs wallow, and grunt their welcome to a boon companion. Those fiddle strings may turn to iron bars, through which you will stretch your hungry fingers for bread and water from the hands of that "good boy."

Aud now, those girls;—how thick the memory comes just here; so fast that they are in a hopeless tangle. Pardon me, but you will remember that, in the days before, a woman was a marvel in the mines; and for years I hardly saw my own mother, although sleeping those six short hours every night in the same house with her. There was one young lady where I called with milk. As she held the pitcher for me, a tickling sensation would come in my throat, and I desired to cough, but dared not, for fear of sacrilege. As I choked down the explosion, the tears would rush to my eyes, my knees would knock together, and I would make an unceremonious bolt for fresh air. O, bashful boys, come to me for pity! But I lived to see the blissful day when the girls were my schoolmates. One of them, marvelously beautiful to my vision, aye, and sacred, too, sat opposite me in school, I never dared to lift my eyes to hers, but what an inspiration she was to me. I date my love of botany and astronomy from that hour. Do not imagine that I ever spoke to her. No, no, I was not so bold; but she often found a bouquet of wild flowers on her desk. She never suspected the real culprit; for it proved to be a practical joke on another. See the consequence of this fraud: She sits in the gallery now, while her husband "commands the applause of listening Senates." He was "Horn."

"Peccavi, peccavi, to soften my pillow,
I humbly confess to a peccadillo."

There was one that came a little nearer the angelic ; because she sometimes spoke so kindly to me, and persuaded me that I was one of God's creatures. Once I was sick, alone in my cabin. You remember those five years of storm and sun that weathered me ; wet from "top to toe" eighteen hours out of the twenty-four for weeks at a time ; drenched by every storm, and chilled by every cold ; nature was yielding to the strain. Alternate heat and storm ; how it warps and cracks the lumber ; how it dwarfs and weakens mind and body, washing out the vitality. My brother had gone to the mountains, and my teacher found me there, after three days, bargaining with old Charon for the price of my ferriage. This fair creature came and smoothed my pillow,—nay, brought a pillow for me—and placed her hand upon my brow. I tried to drive her from my den in alarm ; but, at the touch of her snowy fingers, I dismissed the pale boatman, for I desired to roam the heath a little longer, if tenanted by such fairies. "O ! may there never come some harm " to that lovely enchantress. I know a noble oak that sheltered me from many a storm ; may she find as good a one whenever the wind blows.

I wonder where the good old doctor is that called me back from that dark river. When I asked him for his bill, he rendered it in these words :—"Put all the money you have on the table ; I will do the same ; the one that has the least shall take the pile." I put down my last coin, a five-dollar piece ; he "went me one better," pushed the money to me, and hastily left my cabin in silence, while tears started to his eyes. I thought he was crazy, and sent his money and mine to him by my teacher ; but he returned it with the message :—"Tell the boy I am not the villain to take the plug from his leaky canoe when he is paddling it alone, and bailing too."

Doctor, tell old Charon to charge your bill to me, if you cross first. On the old Feather River, a grim boatman kept a ferry, and he used to come, cursing from his dreams, every morning at five, to paddle me across. Mayhap, he will pass us free if we hail him just at dusk, when the stream runs "cold, black, deep," and my old friend, Owl, keeps the watch, with his "who—who-o—who-o-o-o?" The countersign is :—Tired old Graybeard, with a lost man.

PRACTICAL HINTS FOR THE SCHOOL ROOM.

GEOGRAPHY.

It should be always remembered that teaching the geographical text-book is not teaching geography. Unless the learner has a clear idea of that which the book intends to teach, he is only studying the words before him, and not the world on which he lives. The very first effort of the teacher should, then, be to lead the pupil to think of the whole, or a definite part of the earth, and then to understand that a map represents it.

The elementary course should commence with the pupil as soon as he is able to understand the use of the scale, enough to draw the outline of the school yard. This should be carefully measured, and a correct outline of it made on paper. The roads leading past the school house, with village lots, or country farms, can next be drawn, and afterward the county can be constructed. In doing this work, the pupil should always let a certain distance be represented by a fixed scale, or part of a scale, made either of paste-board or wood. In this way the construction of maps can be learned, and an accurate idea obtained concerning the extent of country represented by a map.

HOW TO DRAW THE STATES.—As soon as

the pupil is able to understand the geography of his own state he should make an accurate drawing of it. Let him make a scale one foot long, and on one side divide its whole length into halves, thirds, fourths and eighths. Let its entire length represent two hundred miles: one half will represent one hundred miles; one third, sixty-seven; one fourth, fifty; and one eighth, twenty-five. On the other side, a similar scale can be made, very much smaller, but sub-divided in the same manner. The longer scale can be used at the black-board, the shorter one at the desk.

HOW TO CONDUCT A RECITATION.—Let an outline drawing of the country, state or continent be drawn, either on the board, slate, or paper, and let the pupils fill it up with mountains, rivers, railroads, canals, etc., at the dictation of the teacher, and under his special oversight. Let this be somewhat rapidly done, and it will afford an excellent test of knowledge. These maps can be corrected and returned to the pupils.

It is an excellent plan to permit pupils to execute, entirely from memory, an entire map, at leisure, but under the general supervision of the teacher.

On these maps, towns, cities, mountains, etc., may be indicated by letters, or figures, and on the margin, outside the drawing, names corresponding to them can be written in columns.

In addition to this, trades and occupations, as well as other facts, can be indicated, and when the work is done it will present an excellent lesson, and will pay for the time spent in doing the manual work.

HOW TO USE WALL MAPS.—A pupil should step to the map and locate, with a pointer, from three to five objects named by the teacher, distinctly repeating the names in connection with the pointing. The class should be encouraged to criticise closely. The pronunciation of diffi-

cult names should be repeated by the class after the teacher, and again repeated by the pupil pointing. A good map may be constructed by several pupils, on large paper, and thus add much to the profit and interest of the school.

REVIEW EXERCISES should be frequent, and the great aim should be, not how much, but how well, work is done. Written examinations are excellent, provided the teacher has carefully prepared from twenty-five to fifty test questions, and is strict in marking. No pupil should be permitted to advance if he can not answer seventy-five per cent. of the questions. All aids in such an examination should be removed, and pupils so seated as to avoid all communication between each other. The questions can be read by the teacher, or written on the board.

In a **REVIEW EXERCISE** one pupil could give the sub-divisions of the country studied; another could locate the mountains, rivers, capes, etc.; another could locate the cities and towns, and describe them; another, give a brief outline of its surface, productions, climate, etc.

ORDER IN STUDYING A STATE OR COUNTRY.

1. Position in reference to other states or countries, as learned from the margin of the map, or by lines of latitude and longitude.
2. Boundaries—general shape, comparative size.
3. Surface—mountains, rivers, lakes.
4. Climate—causes affecting it.
5. Towns and Cities. Routes of travel—railroads and canals; routes of ocean travel, etc.
6. Vegetation—natural, cultivated. Trees, Shrubs, Fruits, Plants, Garden Vegetables.
7. Animals—domestic, wild.
8. Inhabitants—original, present. Languages—original, present.
9. Industries—productive or useful, and non-productive or injurious.

10. Government.

11. History.

The teacher should insist upon the pupils following a definite model. It will save much time. The foregoing order may be somewhat varied, but whatever outline is adopted, it should be exhaustive, and rigidly adhered to.

Unless the teacher uses the utmost care, pupils will constantly use words the meaning of which they do not understand. A child being recently asked: "What do the works of the Creation show?" answered, "The wisdom and goodness of the *equator!*" (Creator.) Comment is unnecessary.

THE ELEMENTARY PUPIL IS NOT EXPECTED
TO KNOW

1. The location of every place on the map.
2. Very thoroughly, physical geography,
3. Very much about mathematical geography.
4. Everything in the book.
5. A mass of dry statistics.

HE IS EXPECTED TO KNOW OR HAVE A
CLEAR IDEA OF

1. The world as it is.
2. What a map means.
3. Thoroughly, the geography of his own county and state.
4. Well, the geography of North America.
5. All the principal features of other countries.
6. The relative distances of principal places from each other.
7. The comparative areas of principal states and countries.
8. Comparative latitude and longitude.
9. Comparative productions.
10. The principal routes of travel.
11. Map-drawing of all the continents, his own country, and the principal states.

12. Comparative heights of mountains, length of rivers, size of cities, productions, and manufactures.
13. Outline history of each state and country.

THOUGHTS ALWAYS TO BE KEPT IN VIEW.

1. The pupil should learn to investigate for himself.
2. Reason should be cultivated as well as memory.
3. The text-book should be intelligently studied.
4. The weekly paper, when properly used, is a valuable aid to geographical study.
5. A knowledge of geography gives soul to history, and a charm to descriptive composition. It includes more than any other study in the school, and underlies all other sciences.—*National Teachers' Monthly*.

ON RECENT ETHNOLOGICAL
EXPLORATIONS ON THE
WEST COAST.

BY LORENZO G. YATES.

Aside from the interesting discoveries made by Government expeditions in New Mexico, Colorado and Arizona, during the past three or four years, the results of which will be fully described and illustrated in the various reports of the several explorations and surveys, some interesting localities have been discovered in our own state. These have been examined and, more or less, fully explored by various parties, either in the interest of the scientific departments of the general government, or for individual gratification. The southern portion of the state, from San Luis Obispo to San Diego, have yielded, by far, the greatest proportion of interesting relics of pre-historic man, and demonstrated that the aborigines of that section were more advanced in art, or of a race

which stood higher in the scale of humanity, than the aborigines of the central and northern portions of the state.

The largest collection of antiquities was made by the U. S. Geographical Exploring Expedition in charge of Lieut. G. W. Wheeler, which, during a month spent in Santa Barbara County, collected about ten or fifteen tons of antiquities, principally from excavations in burial mounds.

Mr. Paul Schumacher has also made extensive explorations in the southern counties, in the interest of the Smithsonian Institution, the most prolific locality discovered by him being the island of Santa Cruz, opposite Santa Barbara.

In 1876, the writer spent several weeks in Santa Barbara County, the greater portion of the time in making explorations and surveys of the geology, natural history and antiquities of Santa Rosa Island, the results of which were sent to the Smithsonian Institution. Many objects of special interest were discovered in these explorations, by which facts have been established and inferences drawn, which are of interest to the scientific world. Among the specimens found are many vessels of talc and serpentine, of symmetrical form and fine finish, and large quantities of ornaments made from marine shells, showing a commendable degree of artistic taste and mechanical ingenuity in the manufacture and ornamentation. Quite a number of finely made stone vessels were unearthed; these vessels were used for cooking and similar purposes, and as accompaniments in the burial of the dead, and depositaries of the bodies. One of these in the writer's collection, and found near Santa Barbara, contained the remains of the skeleton of a child about five years of age, with ornaments of shell, and two entire abalone shells. It was buried in an upright position, about three feet below the surface of the ground, a flat stone laid on the top served as a cover.

This burial vessel is pear-shaped, with a circular opening at the top, or smaller end; others are found saucer or bowl-shaped, and generally found covering or containing a skull.

Some two hundred or more skeletons were exhumed on Santa Rosa, but the poverty of the former inhabitants, compared with those of the adjacent islands and the mainland, was very apparent in the absence, in most instances, of any accompanying relics. Beads of ancient Venetian manufacture were discovered in some of the graves, and in one instance the oxidized remnant of a large knife, such as is used by sailors, together with many other interesting and, occasionally, unique specimens.

Rev. L. Bowers has recently examined the island of San Miguel, in the same group, but the results have not been made public.

In Alameda County, the writer has discovered and described a large number of mounds, many of which have yielded interesting relics, but little, if any, evidence of art, beyond the rude and simple stone implements common to the earliest ages of man. The description and illustration of these discoveries have been forwarded for publication in a forthcoming Government Report on the Ethnology of the Western States and Territories.

The recent grading of the track for the Bay and Coast R. R. Co., between Santa Clara County and the town of Alameda, furnished an excellent opportunity to explore one of the largest and most extensive burial mounds in Alameda County. It is situated in Washington Township, near Jarvis' Landing, on the banks of a slough which occupies one of the ancient channels of Alameda creek. The mound is of an irregular form, its longest diameter in a line running nearly east and west, seven hundred feet, with a width of four hundred feet; its height some eight or ten feet.

The cut made by the railroad is about three hundred feet long, running west, 25° north, through the highest part of the mound. From two to three feet of the mound are composed of the peculiar black, ashy soil characteristic of the aboriginal camps, containing large quantities of shells of the oyster, mussel, and date-fish, with bones of the elk, deer, sea-otter, badger, and coyote, and a number of species of birds, principally water-fowl. Human bones are found all through this deposit. The bodies were buried in a sitting position, and in only one instance, during the excavation, was anything found which had been buried with the body. Large quantities of ashes and burned clay, with some slag, were found in the upper layer; marking the localities of the larger and more recent fires.

Below the black, ashy deposit, the soil changed very materially in its character and appearance, as though a long period of time had elapsed during which the locality had been deserted. A section of the mound in the cut, shows where excavations have been made for fires, leaving irregularities in the dividing line between the upper and lower deposits filled with ashes and shells. The lower deposit, extending from about two feet below the surface to and below the lowest level reached in the excavations, is of a yellowish color, having somewhat the appearance of decomposed granite. It consists, principally, of decomposed burned clay, in which fragments of charcoal and occasional stone implements and fragments of shells were found. Two skeletons were taken out of this yellow soil, one at a depth of over five feet, and the other six feet below the surface of the mound. These did not appear to have been intrusive burials, the soil above and around the skeletons being the same as the other material of the lower portion of the mound.

The difference in the soil of the upper

and lower portions of the mound, with the paucity of relics in the lower portion, would seem to indicate that the earlier inhabitants occupied the locality at a time *previous to the manufacture of stone implements in quantity*, and so long ago that nearly all the evidences of their occupancy have become obliterated. All the skeleton found in the upper portion were from twelve to eighteen inches below the surface, the older burials (with the two exceptions named) having disappeared. Some twenty or more skeletons were found in making the cut, and judging from this, and from other observations, made at different points, the entire mound must contain many hundreds, while the length of time necessary to build up a mound of such size and extent by the natural accumulation of debris around the habitations, would indicate that many thousand human bodies have been there buried; for the probabilities are that the time of its first occupancy by man would date back many thousands of years.

E. G. LORING, JR. to whom a series of questions touching the cure of the eyes, was recently submitted by the Medico-Legal Society of New York, in answer to the question whether the angle at which light strikes the eye is important, replies: "the light should not come directly in front; neither should it come from directly behind. It should not come from the right side, because, in writing, the shadow of the hand falls across the page; and a moving shadow over a lighted surface not only reduces the quantity of light and leads to a stooping position, but it is also more annoying to the eye than a uniform reduction in the illumination of even a greater degree. The best direction for the light to come is from the left-hand side, and from rather above than below the level of the hand."

EDITORIAL DEPARTMENT.

Cramming vs. Teaching.

THE public school system is a great hobby for the popular speaker to orate upon; and scarcely a neophyte wields the pen who has not (in his own opinion) a thorough comprehension of all its details and workings. Fault-finding is one of the easiest of human tasks, and that work must be perfect, indeed, in which some one cannot discover flaws and imperfections. But one blemish on our school methods has become so glaring, that its removal is essential to the healthy development and progress of the system of popular education in our midst.

We believe, if the honest opinion of every teacher on this coast could be recorded, the admission would stand declared that there is more cramming done, than natural, healthful, progressive teaching—and, as a consequence, more dyspeptic minds, making their weak effort through life—than strong souls, making their mark on the age. When, on the occasion of an Annual Examination, we take up the morning paper, filled with reports from our city schools, and observe that, out of one hundred classes, ninety-five will promote forty-four out of forty-five pupils, through every term of every year, successively, we are forced to the conclusion that one of two things is certain, either the forty-four intellects are as much alike as two peas in a pod, exactly equal in every quality and power, or there is a machine at work that makes them so. Now, we do not say that the teacher is that machine. We do not think this to be the case. We think it is the system adopted by Boards of Education years ago, and still reverenced

and followed for no other apparent reason than its antiquity. Most of the teachers are females, who work for dear life, and do what they are told to do; and they see before them the inevitable fate—that they are expected to promote so many, or such a per cent. of their class, or lose their position, and their means of living. They set to work to devise a means of driving through the mill every pupil in the class, no matter what the mental calibre may be; or what the conditions of physical health, or quality of mind, or home life. They must go through as a whole, or be crushed out of the class, as at the point of the bayonet. It is the system adopted, that turns out of the schools these pupils in this condition, which leads the business community to remark often, that the public schools never fit pupils for their life work.

Now, the remedy is the question. We do not know that one is possible at once. If it is, then, evidently, it is the duty of the educated class, teachers themselves, to find the cure. So large and intelligent a body as that of the professional teacher should have in itself the elements of first-class government; and, in the course of a generation or two, be able to complete an organization and management that should not need to be reformed every five years. So far it has not been found. At present, the pupils are crammed, and not properly educated; and authors of the system are directly responsible.

In answering advertisements, or ordering articles advertised in our pages, will our friends please mention the name of the JOURNAL? They will, thereby, afford us material assistance.

Grammar.

THE books say, "English Grammar is the art that teaches how to speak and write the English language correctly." We suppose this definition is a true one. If so, does the teaching of what is ordinarily called "grammar" train the pupils in our schools in the use of their mother tongue? To what extent, precisely, is a child benefited by being able to classify the parts of speech? And how does his ability to separate a sentence into its component parts affect him? Do not our teachers over-do this matter of analysis and parsing a little? Is it strange that so few children "like grammar?" "We can't see what the use of all this parsing is," is an exclamation familiar to many a teacher. When we see a girl or boy who anxiously awaits the grammar lesson, we see a taste as abnormal as that which gloats over an execution.

"Finding fault is easy," we hear some one say; "what would you have us do?"

Do? Less definition; less parsing; less analysis. More common sense; more good example; more composition—oral and written; more drill on the proper arrangement of words in sentences.

There is too little time spent in our schools in teaching children to talk properly; too little time in teaching them to write the most common business letter.

How to do these things properly? Certainly not by stuffing the youthful mind with definitions, by puzzling the intellect with abstractions. *Let teachers use good English themselves;* always correct in your pupils, every improper, *un-English* expression. Spend half an hour daily in discussing some interesting subject, taking pains to call forth the opinions of every member of your class at length, and make them speak "grammatically;" recommend them to read the works of the best authors, and, frequently, read with them, *in school;* let

them occasionally read, as a lesson, some standard weekly paper, magazine, or *respectable* daily newspaper.

Theorists cannot disguise it. The English we hear spoken, we see written, is the English we use; all the definitions and rules in the world can have but little effect to make it otherwise.

If the object of teaching grammar, then, is the correct *use* of language, are we not correct in assuming that language in the way it is used—in the sentence—is the way to study it?

The Coming Election.

BEFORE the issue of our October number, a general election will have been held in this state. At this election, about sixty County Superintendents are to be elected, and eight or ten Boards of Education. Teachers are doubly interested that the best men, the most competent, the thoroughly honest, only, shall be chosen to fill these positions. They are interested as citizens of the state, as taxpayers; and they are interested as employees of those who will be elected.

The selection of school superintendents and directors, is something so far removed from the legitimate sphere of politics that it is not only our right, but our positive duty, to use every influence to aid in the selection of those best fitted to govern the school departments of the state.

While teachers should carefully keep clear of all political complications, they should yet feel that active interest in school management which is indicated by the exercise of every particle of influence they can exert, in favor of the most competent candidates for educational positions. No false modesty, no unworthy timidity should deter them from working in the homes of voters, or at their places of business, to secure an efficient administration.

We hope every teacher will aid, to the

utmost extent of his ability, in securing the election of school officers favorable to the development and growth of our system.

An Appeal to the Profession.

In seven successive numbers, we have demonstrated to the teachers and educational public of the Pacific Coast the practicability of publishing a good educational monthly in their midst, and for their especial benefit. The success of our enterprise has been considerable, and, if not altogether commensurate with the merits of the JOURNAL, our subscription-book yet includes the names of a majority of those entitled to be designated educators. Nor can we consistently blame those who have hitherto refrained from subscribing, as, without any unjust or unnecessary reflections on our predecessors in this field, we yet believe the experience of teachers with educational journals on the Pacific Coast, has not been of a nature to warrant much confidence in any undertaking of a similar nature. Every successive number of THE PACIFIC SCHOOL AND HOME JOURNAL has, however, been of a character to strengthen the favorable impression created by the appearance of its first issue. We may, therefore, confidently appeal to the great mass of our teachers; showing not what we promise, but what we do.

Our JOURNAL is taken by a large number of readers in every county of this state. This edition is sent, gratuitously, to every teacher in Oregon, Nevada, and California. We appeal earnestly for a general reply. The subscription price is a mere trifle to each individual teacher; the aggregate amount will be of service, not merely to us, but to the cause of education, here, in the Far West. A circular, accompanying the JOURNAL, is sent to those not subscribers. In this circular, prepared and signed by the "Associate Editors," who include a

number of the most prominent County Superintendents of the State, educators widely known, and no less widely respected for integrity and pre-eminent ability, are set forth, more fully, the reasons why every teacher on this coast should immediately subscribe.

We trust our appeal will meet a speedy and generous response.

We are very sure that all of our readers who are truly interested in the cause of education in California, will be glad to learn of the return to the ranks of two veteran teachers of unusual ability and enthusiasm. We allude to Hon. John Lynch and wife, who have just taken charge of the Santa Barbara College. The name of Mrs. Lynch, formerly Miss Atkins, of Benicia, is a household word in many a home in our state, and her husband is a gentleman of high ability and culture, who served with distinction in the civil war, was for a time U. S. Surveyor-General of Louisiana, and, more recently, a member of the Centennial Commission, at Philadelphia. Mr. Lynch is also an old teacher, and is especially interested in normal instruction, believing, thoroughly, that the root and foundation of all good teaching is through special training for the work.

We wish Mr. and Mrs. Lynch abundant success in their undertaking; and we recommend that they receive a liberal share of the patronage bestowed on the educational institutions of the state.

We call the particular attention of our readers to our college advertisements. We believe every first-class academic institution in California is represented in our pages. Teachers and superintendents, who have constant opportunities to recommend schools for higher training than is afforded by the district school, should carefully consider these advertisements. Our own special friends, too, who are doing

all in their power to foster the educational growth of the state, will do well to throw patronage in the way of those cultured and enterprising gentlemen, who stand side by side with them in their support of the JOURNAL.

WE have a special array of advertisements in this number of the JOURNAL. Our reading matter is, consequently, a little less in quantity, though of the same high quality as usual. We secured these extra advertisements simply to assist us in partly defraying the great cost of an extremely large edition. We deem these explanations not out of place, as we assure our subscribers that we have no intention of turning the JOURNAL into an ordinary advertising sheet.

We thank Superintendents R. H. Bramlett, of Fresno, and C. W. Childs, of Solana County, for their exertions in behalf of the JOURNAL. From occasional letters received from their respective sections, we can testify that their teachers agree with us in regarding their administration as tending to develop education in their counties, and endorsing them as representative educators.

OUR thanks are due Dr. L. L. Rowland, State Superintendent of Oregon, for hearty words of approbation and encouragement. In another column, will be found ample evidence that, under Dr. Rowland's administration, educational progress is neither dead, nor yet sleeping in Oregon.

WE are greatly in need of copies of the JOURNAL of March, April, and August. We shall feel obliged to teachers who will supply us with these numbers; and will remit them the postage, if they will send in their names.

Every teacher should take an Educational Journal; every good teacher will.

GENERAL NOTES.

A MONUMENT to Liebig was unveiled at Darmstadt, his native town, on May 12th, the seventy-fourth anniversary of his birth.

OUR "General Notes" should be credited to Harper's *Weekly*, and *Bazar* this month, from which they are generally selected.

THE National Educational Association held its seventh annual session at Louisville, Ky., on the 14th, 15th and 16th of August.

IN Illinois, there are now eleven female County Superintendents of public schools. In California, there are already four, and the number will be increased if those now candidates are elected at the ensuing election.

THE Teachers' Institute of Washington Territory, at its recent session at Seattle, proposed a change in the law, so as to make women over 21 years of age eligible to any office connected with the public school system.

THE Normal School of the city of New York graduated a class of 130 in July, and closed with 1300 pupils still on register. The new applications for admission will bring the total enrollment, on re-opening in September, up to 1800.

THREE ladies presented themselves for examination to the Irish College of Physicians a few weeks ago, and after passing through an ordeal extending over three days, and comprising clinical, written, and oral tests of capacity, they were admitted to the register of physicians of that college.

HAVING measured the red blood-corpuscles of men belonging to fourteen different races or nationalities, Dr. Richardson,

of Philadelphia, found the average diameter to be $\frac{1}{32\frac{1}{4}}$ of an inch, the maximum diameter being $\frac{1}{27\frac{7}{7}}$, and the minimum $\frac{1}{400}$.

THE Hon. J. L. Pickard has resigned the Superintendency of the Chicago Public Schools. Mr. Pickard had held this position for about thirteen years, and the Chicago schools owe their high state of efficiency to his ability and progressive spirit. We consider the loss of Mr. Pickard's services as a calamity to the cause of education in the West.

PHYSICIANS in attendance on the sick children of the poor of New York, say that want of knowledge and care on the part of mothers is one of the greatest difficulties they have to contend with in their efforts to restore the little ones to health. Mothers will give hard, unripe, or even unfresh fruit to children suffering with the summer complaint; and one physician said that he had detected mothers giving babies not a month old, cake and other unsuitable food.

THE Clarks, of Cambridge, Massachusetts, are acquiring great fame for the magnitude and perfection of their telescopes. They are now making one fifteen feet long, with an object-glass of eleven inches in diameter, for the government observatory at Lisbon, to cost \$6000, and be used for photographing the sun. Princeton College is having one made, to cost \$4000, and talks of a larger one. The Clarks are also to make a gigantic one for Yale College, but it will take several years to complete it, and it will cost \$50,000.

WHEN the Queen of Holland was on her death-bed she uttered a melancholy prophecy with respect to the future of her country. She said, " You will never see

another Queen of Holland, and a republic will not take my place." She said also, " I foresee disastrous calamities for France." Putting the two predictions together, the dying Queen's prognostications are easy to understand. She believes that the present sovereign is the last King of Holland, that there will be a fresh war between France and Germany, in which the former will be beaten, and the latter will become master of Holland.

THREE are now over fifty nurses under instruction in the Training School connected with Bellevue Hospital. Consequently, the gift of a permanent home for these nurses, by a wealthy and charitable lady of this city, as a matter of deep interest, not only to the nurses themselves, but to the public generally; for no department of education is more important to the health and comfort of the community than the proper training of those who are to take care of the sick. The new Home is a large building, recently finished, and occupying two lots opposite Bellevue Hospital. It contains kitchen, laundry, dining hall, reception room, and parlor, and the three upper stories are divided into numerous neatly-furnished sleeping-rooms. The superintendent and nurses of the Training School have taken possession of their new quarters, and regard the Home as a great acquisition.

ON the 20th of June occurred the fortieth anniversary of the accession of Queen Victoria to the British throne. Only four other sovereigns of England have reigned as long, namely, three kings, each of whom was the third of his name (Henry III, Edward III, and George III), and Queen Elizabeth. No reigning sovereign of Europe has sat so long on the throne, unless we except a couple of German princes. Since 1837, two dynasties have fallen in France. The Emperor of

Austria owes his crown to a revolution; so do the kings of Italy and Spain, and the Sultan. In the same period, the Pope has twice been deprived of his temporal power. Some kingdoms have utterly passed away; others, some of them reputed the strongest in the world, have been shorn of their ancient proportions. Her Prime Ministers have been eight in number, and have averaged five years in office. Only one ministry, the Palmerston-Russell (1859-66), endured for seven years. Nine of her Parliaments have been summoned, and eight dissolved; their average duration has been four and a half years. Of the ministers of 1837, only two survive—Lord Grey and Lord Russell. At the first general election after her accession, it was announced that Maidstone would be contested by "Mr. Disraeli, the younger."

CALIFORNIA.

The following extracts from a circular issued Aug. 15th, from the Department of Public Instruction, will interest the teacher:

Department of Public Instruction

RENEWAL OF CERTIFICATE.

1. All certificates, State, county and city, after the expiration of the time for which they are granted, *are dead*, and cannot, therefore, be legally renewed.

2. The fact that certificates have no legal existence after the time for which they were given has *expired*, and consequently cannot be renewed, is not strengthened by the expression, "At the expiration of the time for which they were granted." (See Sections 1753, 1775, and 1792, Political Code.)

3. A certificate granted on one that has expired is not a *renewal*, but a new certificate, issued without authority of law, and *invalid*. (See Section 1869, Political Code.)

4. All certificates, excepting First Grade County, may, in the discretion of the Board granting the same, and at the time they expire (allowing a reasonable time for their transmission) be renewed.

ON GRANTING COUNTY CERTIFICATES ON CERTIFICATES OF OTHER COUNTIES; AND CITY CERTIFICATES UPON CERTIFICATES OF OTHER CITIES.

1. County Boards may, in their discretion, without examination, grant certificates of like grade, and for the unexpired time, to the holders of certificates granted by the various County Boards of the State, and such certificates may be renewed when they expire, by the Board granting the same, *but County certificates cannot be granted upon City certificates*. (See Section 1771, subdivision 5, Political Code.)

2. City Boards may, in their discretion, without examination, grant certificates of like grade, and for the unexpired time, to holders of certificates granted by the various City Boards of the State, and such certificates may be renewed when they expire, by the Board granting the same, *but City certificates cannot be granted upon County certificates*. (See Section 1792, Political Code.)

3. It should be distinctly borne in mind that *City* certificates are granted upon the same studies, and for the same time; *i. e.*, two, three and four years, as State certificates, while County certificates are granted upon a less number of studies, (excepting First Grade County) and for *one, two and three* years, showing that the obvious intent of the law was not to make the two kinds of certificates, City and County, interchangeable. (See Sections 1771 and 1791, subdivision 1.)

4. The certificates granted by the Board of Education in San Francisco are *City certificates*.

VALIDITY OF CERTIFICATES AND STATE EDUCATIONAL DIPLOMAS.

All certificates, city, county, or State, and the State educational diploma, to be valid, must have the standing in each study indorsed upon them. (See Section 1749, Political Code.) Provided, that State certificates granted in accordance with the provisions of Section 1750 of Political Code, and State educational diplomas granted upon such State certificates, shall have indorsed upon them only the name, date and authority by which such certificates and diplomas have been issued.

RENEWAL OF STATE CERTIFICATES AND STATE EDUCATIONAL DIPLOMAS.

All State certificates and the State edu-

cational diploma may be renewed by the Board of Examination granting the same, at the expiration of the time for which they were granted, on application of the holders thereof: provided, that the application be accompanied by the certificate or diploma, and the recommendation of the school superintendent where the applicant resides, certifying that the person applying is a successful teacher, of good moral character, and designs to continue in the profession of teaching; and provided further, that the certificates or diplomas shall not be renewed after the time for which they were given has expired.

CERTIFICATES GRANTED UPON SECTION 1750
OF THE POLITICAL CODE.

The State Board of Examination may grant certificates upon any State Normal School diploma or life diploma given by any State Board of Examination in the United States; provided, that the application be accompanied by the diploma, and the recommendation of the school superintendent where the applicant resides.

STATE EDUCATIONAL DIPLOMAS.

Applicants for the State educational diploma must have held a valid first grade State certificate not less than *one* year, must send the date of such certificate to the State Superintendent's office, together with the recommendation of the school superintendent where they reside, with satisfactory evidence of having taught successfully at least *five* years: provided, that if their State certificate was granted prior to January 1st, 1872, or on the provisions of Section 1750 of the Political code, then the certificate shall be forwarded to the State Superintendent's office, in order that the proper indorsements and records may be made.

LIFE DIPLOMAS.

Applicants for a life diploma must have received the State educational diploma, must send the date of the same to the office of the State Superintendent, with the recommendation of the County Superintendent where they reside, and satisfactory evidence of *ten* years successful teaching, or evidence that they have held the office of State, City, or County Superintendent one year after receiving their educational diploma: also, a fee of three dollars, (Sec-

tion 1757, Political Code) to be returned if the applicant is not successful.

All diplomas, renewed certificates, and certificates granted upon State Normal School diplomas, will be sent, when granted, to the school superintendents recommending the same, unless otherwise specifically directed.

E. S. CARR,

Superintendent of Public Instruction.
Sacramento, Aug. 15, 1877.

THE following circular was issued, in August, from the State Superintendent's office:

Sacramento, August 22d, 1877.

To School Superintendents:

In the opinion of the State Controller, the amount of the State School Fund to be appropriated in February, 1878, will be about six dollars per census child. This, with the August apportionment of 1877, (one and one-third dollars per census child,) will make the amount apportioned during the fiscal year ending June 30th, 1878, about seven and one-third dollars per census child, against seven dollars and ninety-eight cents per census child for the fiscal year ending June 30th, 1877.

These data will enable you to determine the minimum amount of the County School Fund needed for the ensuing year.

EZRA S. CARR,
Superintendent of Public Instruction.

On August 6th, the State Superintendent made an apportionment of \$267,956.52, to be divided, *pro rata*, among the school districts of the state.

The meeting of the State Teachers' Association, which was to have been held at San Francisco, in September, has been postponed to October. Timely notice of place and time of meeting will be given in the JOURNAL.

THE total number of children in the state between 5 and 17, is 200,067.

We are not "short of reading matter" this month, as we supposed. On the contrary, our JOURNAL contains more matter and a greater variety than ever.

STATE OF NEVADA.

The total current expenses of the public schools of Virginia City last year were \$36,000. Number of teachers, 26. Highest salary (males), \$1750, per annum. Highest salary (females), \$900 to \$1400, per annum. Whole number of children attending, 1300. Cost, per capita, \$27.60.

The Virginia City and Gold Hill schools are in the midst of their summer vacation, which closes Sept. 3.

Freehand drawing is to be introduced into the Virginia City schools.

E. J. Pasmore is County Superintendent of Schools of Storey County.

There being no money in the School Fund to carry on the Dayton School, public-spirited citizens are taking steps to carry it on by private means.

ITEMS FROM COUNTIES.

SAN FRANCISCO COUNTY.

The results of the introduction of physical culture and military drill into the public schools have been highly encouraging. This is a step in the right direction, and from evidences under our own observation, we know that the weekly lessons by Capt. Hughes are as popular with the pupils as they are with our most intelligent teachers.

The nomination by the Democratic County Convention of Prof. A. L. Mann, for the city superintendency, was a deserved tribute paid to twelve years of unremitting study and faithful services. Prof. Mann is no politician, but an educator in the highest sense of the term; and should he be elected, the schools of this city will assuredly not suffer under his administration.

A few words of commendation and acknowledgment are due to three members of the present City Board of Education, who have been re-nominated. We refer to the President, Joseph Clement, a veteran Director, Dr. A. A. O'Neill, and Capt. Philipps. The two former were nominated by the Democratic Convention, the latter by the Tax-payers. Nothing more forcibly illustrates the stupidity of the average nominating convention than the fact that these gentlemen did not receive the nomination of both. We

had always supposed that integrity, public-spirit and efficiency were entitled to some consideration. However, we have confidence enough in the people to believe that after electing Mr. Clement almost unanimously two years ago, and Dr. O'Neill and Capt. Philipps by large majorities, they will do so again.

Joseph Leggett, to whom and from whom there have been frequent references in the JOURNAL, has been nominated for School Director in this city. There is no doubt, in our mind, of his election. He will make an invaluable member of the Board.

One excellent nomination made by the Tax-payers' Convention was that of Joseph Greenbaum, a representative *American* citizen.

Hon. Henry N. Bolander, Ex-State Superintendent, and at present City Superintendent of this city, has been re-nominated for the latter position. As a scientific investigator, of rare ability, Mr. Bolander is known to the ablest minds of our country; as an educator, he has mastered the philosophy and exemplified the practice of teaching.

We recently visited the University Mound School, under the charge of Mr. and Mrs. John Gamble. We had known the young lady as "A. No. 1," through her course in the State Normal School, High School, and into the State University, when she was captured by a classical tutor, drawn out of her orbit by a potent force, suddenly promoted from her humble pupilage to do double duty as matron and teacher in a boys' collegiate school. We observed that the same fidelity, conscientiousness, patience, and zeal mark her course now as when we first knew her just in her teens. Mr. G. has been connected with the school from the beginning, seven or eight years ago. A fine large building, and large grounds several miles from the heart of the city, fresh running water, mountain air, a good gymnasium—with a first-class leader—good music, enjoyment limited only by propriety, gentlemanly conduct, abundance of good food well-cooked, plenty of fruit, (we tested all these) good beds—everything under the eye of a good mother and an equally good grandmother. What more could any mortal boy ask for?

Mr. I. Warren Ball, late teacher in the preparatory school of Melbourne University, Australia, and graduate of the London College of Preceptors, has located in San Francisco, intending to make a specialty of preparing young

ladies and gentlemen for admission into the University of California. Mr. Ball brings testimonials of a high order, and we trust that he will meet with a large measure of success.

ALAMEDA COUNTY.

There are upwards of 12,000 census children in this county.

In 1876-77 there were eighty-six teachers employed in Alameda county, exclusive of the city of Oakland.

The average monthly salary of teachers is \$95.25, and \$82,000 was expended for salaries.

To the following, from the *Oakland Transcript*, "J. C. Gilson, of Pleasanton, received the nomination for Superintendent of Schools. He is a practical teacher of high standing and culture, and will no doubt fill the office to the entire satisfaction of the teachers and people," we can add: We have known Mr. Gilson since 1870, when he was Principal of the school at Washington Corners, in this county. In this position, and as Principal of the Pleasanton school, he has won the esteem of old and young alike. A cultured, progressive teacher, and an estimable gentleman, he will dignify the position of County Superintendent, and prove a worthy successor to the present highly efficient and respected incumbent, W. F. B. Lynch.

Superintendent F. M. Campbell, of Oakland, who has been seriously ill of pleuro-pneumonia, has recovered, and is again attending to his school duties.

The German citizens of Oakland gave a musical and literary entertainment, August 12th, Sunday eve., by way of inauguration of the new school for teaching German.

117 applicants for Freshmen class at Berkeley have been examined up to August 10.

Mr. Bryant, of Oakland, has received the 1st prize and medal for skillful work as taxidermist; specimens sent to the Sidney (Aus.) exhibition.

The daughters of the late Orin Sage, of Ware, Mass., have given to Mills Seminary \$2000, to found a Scholarship for daughters of Clergymen.

Oakland has a free Reading Room.

SANTA CLARA COUNTY.

The California State Normal School, at San Jose, opened August 9th, with the largest attendance since its organization sixteen years ago; 430 pupils have entered, besides a large class in the Training School.

For once, an apparent reduction of salaries gives general satisfaction to those teachers most interested. The Board of Education in San Jose have resolved to pay the same annual salary as at present in twelve instead of ten instalments. The monthly salary is smaller, but vacations and holidays are provided for. San Jose is the third city in this State which has adopted this just and sensible method, Oakland and San Francisco being the other two.

The best school paper, that is, a paper published and printed by the pupils of a public school, that we have ever seen, is the *Gilroy Public School Effort*, of Gilroy, in this county. It is a four-page, sixteen-column journal, of excellent typographical appearance, well edited, with a fine variety of first-class selected matter, and full of brief, interesting school items. Our space will not permit half of what might be said in praise of it, and we can only add that every column testifies to the excellent condition and progress of the Gilroy Public Schools, under the management of Prof. Oliver.

Hundreds of graduates of the California Normal School will learn with regret of the resignation of Miss Eliza W. Houghton, since 1862 the Preceptress of that institution. Ill-health is the cause of Miss Houghton's withdrawal from the profession. We trust that rest and change of scene may soon restore Miss Houghton to her former state of health.

H. B. Worcester has taken charge of the Garden City Commercial College, San Jose.

SONOMA COUNTY.

The Teachers' Institute of this county will meet in Petaluma, September 18th.

About 100 students are enrolled as in regular attendance at Christian College, Santa Rosa,

The contract for a new school building for the Healdsburg Institute has been let for \$5800.

A new school building will soon be erected in Guerneville, containing three class rooms.

A normal class is under the instruction of Prof. Butler, at Healdsburg, as is also a class of four students, preparing for the University.

The following extract from the Petaluma *Argus* explains the fate of the colored class of that city:

"I the colored school of this city is not dead, it is at least in a morbid state. A teacher for the school was engaged for the present term. She went to the school house every day for the first two weeks, but no pupils appeared, and she

quit. We greatly doubt whether the school will ever be revived."

Miss Fannie Davidson, a graduate of the Petaluma High School, has been elected teacher of one of the higher grades in the Ukiah School.

A. W. Scott, Ph. B., a graduate of the University of California, and an old pupil of the Editor of the JOURNAL, has accepted the position of First Assistant in the Healdsburg Academy.

SANTA CRUZ COUNTY.

J. W. Linscott, Principal of the Watsonville School, is a candidate for County Superintendent of Schools, in opposition to the present incumbent, W. H. Hobbs, who is a candidate for re-election. Mr. Linscott is a man of the highest moral and professional qualifications, and Santa Cruz will be equally fortunate in electing either of the gentlemen. Mr. Hobbs has already served three terms, and is known as one of the most efficient Superintendents of the State.

A successful school, Thomas Brady, teacher, is in operation at Aptos.

F. H. Darling, Principal, and Miss Carrie Pratt, Assistant, are teaching the Corralitos School.

The teachers of the High and Grammar School at Santa Cruz are, Principal, Prof. W. W. Anderson; Assistants, E. C. Newell, Misses Root, Kirby, McCann, Cooper, Sprague, Burrows, and Holbrook.

The Watsonville Grammar School, J. W. Linscott, Principal, has ten departments, or classes, and about 430 pupils.

LAKE COUNTY.

G. W. Wilson and M. J. King, teachers of the Upper Lake school, make a forcible appeal in the Lake County *Bee* to the tax-payers of their district for a new school-house. Their arguments are excellent; we hope they will avail.

Superintendent L. Wallace shows that teachers in the country can hold as frequent and profitable meetings as those in the largest cities. The Lower Lake Teachers' Association meets September 1st, and is the third or fourth meeting held within the past six months. A majority of the teachers appear to attend, take part in the exercises, and improve.

J. W. Shirley, the Democratic nominee for Superintendent of this county, is well spoken of and will probably be elected. We trust he will continue the good work of the present Superintendent.

An editorial in the *Bee*, evidently written by Superintendent Wallace, takes strong and logical grounds against reduction in teachers' salaries.

There are 1,661 census children in Lake county; the number of teachers is 34.

Lower Lake has completed a brick school-house at a cost of \$10,000.

BUTTE COUNTY.

In this county, there are 5,317 children between 5 and 17 years of age; 64 school districts; 35 male and 43 female teachers. During last year, \$50,000 was expended for school purposes.

The people of Chico have erected a school-house costing \$37,000; Oroville has expended \$21,000; Cherokee, \$8,000; Gridley, \$2,500; Hamilton, \$2,000; Oregon City, \$2,000; Manzanita, Bangor, and Pine Creek, each, \$1,500.

Many of the teachers in this county have been engaged in the business for almost a life-time. Bowdoin College is represented by H. T. Batchelder, of Chico, who holds a Life Diploma. The State Normal School of Massachusetts, by L. F. Norman, of Cherokee, who also holds a Life Diploma. The State Normal School of California, by Mr. Peachy, of Oregon, who holds an Educational Diploma. A large number of teachers hold Educational Diplomas, or First Grade Certificates.

CONTRA COSTA COUNTY.

The citizens of Martinez are offering premiums of \$2 for white and \$5 for Graham bread to the girls of the "Juvenile Grange," to encourage them in making good bread. Why don't somebody in San Francisco protest with holy indignation?

The Martinez Public School has upwards of 160 pupils in its three departments, and a prospect of more. The census returned 197 between 5 and 17.

The Martinez Grammar School has organized a literary society, called the "Mutual Improvement Society." The officers are elected from the advanced class, with the teacher as ex-officio director. The sessions are held on Friday afternoons in lieu of the bug-bear composition and declamation exercise. Select reading, music, a paper, and a general debate please the pupils much more than "speaking pieces" and that "plaguey old composition" did.

YUBA COUNTY.

Th. H. Steel, the present efficient and highly-popular Superintendent of Yuba, has been nominated for re-election. We know he will be successful by a large majority.

The salary of a number of teachers in the Marysville schools has been raised. Good.

Marysville spends \$1210 per month in salaries for teachers.

At a meeting of the Board of Education of Marysville, the present efficient corps of teachers was re-elected. Notable among the Marysville teachers, are Messrs. E. K. Hill, H. C. and W. S. Babcock; the two latter have been engaged in the Marysville schools over eight years.

The Yuba City schools will re-open on Sept. 10th, with O. E. Graves, Principal, and Misses Craddock and Grover, Assistants.

PLACER COUNTY.

The Republicans of this county have nominated Miss Charlotte M. Pitcher, of Michigan Bluff, for the office of County Superintendent. Miss Pitcher has an excellent record as a teacher, and is well qualified for the position. The Democratic nominee for the same office is Mr. Oscar F. Seavy, of Forest Hill.

The school in Dutch Flat will open August 27th, with Duncan G. Ingraham (retained) as Principal, Addie Marsh (retained) teacher of the Intermediate Department, and Belle May, formerly of Livermore, teacher of the Primary Department.

MONTEREY COUNTY.

A neat and commodious building has just been completed in the Mountain School District, of this county.

The Republican candidate for Superintendent of this county is Miss Ella S. Blaine. The San Francisco *Alta* says that she is young, pretty, and, we will add, a good teacher.

SAN JOAQUIN COUNTY.

The Stockton public schools re-opened, after the summer vacation, on August 27th.

S. G. S. Dunbar is the Republican candidate for re-election to the School Superintendency of this county. He will, undoubtedly, be successful.

TEHAMA COUNTY.

Edward Sweeny, formerly Principal of the

Red Bluff school, and Republican candidate for County Superintendent of Schools, is one of the proprietors of *The People's Cause*, one of the best papers in Northern California.

Examination Papers.

ORTHOGRAPHY.

(100 credits.)

Five credits deducted for each misspelled word of the following list: until, scholar, very, separate, syllable, grammar, many, surely, even, cities, copying, arithmetic, definition, tuition, wherefore, merry, California, which, business, annual, water, augury, balance, moral.

For every one of the following misspelled, two credits deducted: misspelled, exhilarate, pursuing, battalion, apologize, apparition, preparation, fascinate, miscellaneous, surprising, prejudicial, mimicking, appurtenance, villagers, propagate, vaccinate, ammunition, auxiliary, persuade, tyranny, definitive, pinnacle, miscalculate, inoculate, turbulent.

Two credits deducted for every mistake in spelling, in contracting or obviously bad punctuation of the following: Can a body pare a pear with a pair of scissors? The principal explained every principle in the operation. The messenger arrived at Cincinnati at twelve o'clock. I'd as lief go as stay, wouldn't you? Macauley, the historian was a Britain's essayist.

WRITTEN ARITHMETIC.

(100 credits.)

1. San Francisco is 37 degrees 38 minutes N. L. What is its distance in Statute miles from the Equator?
2. Find the capacity or solidity of a cubical box, each edge of which is 8 feet 9 inches. Find the surface of the same box.
3. Divide 4 square yards, 5 square feet, 75 square inches by 5, and multiply the quotient by 3.
4. Bought grain at $1\frac{1}{4}$ cents per pound and sold it at $2\frac{1}{2}$ cents per pound, what was my gain per cent?
5. Assuming the great valley of California to be 450 miles long and 50 broad, what would be the length in miles of the side of a square of equal area?
- (b) What number of farms of 160 acres each would it contain?
6. If two sections of land for every township, of 6 miles square, be given to the State for school purposes, and were sold for \$1.25 per acre, what would be the amount of school fund from this source?
7. A merchant bought 800 centsals of wheat at \$12 per cental, and sold it immediately at \$16 per cental, receiving in payment a note due in 90 days, bearing interest at 12 per cent. This note he got discounted at the Bank of California at the rate of $1\frac{1}{4}$ per cent. per month. What did he gain?
8. Write a business form of promissory note from John Doe to Richard Roe, for \$150.37 $\frac{3}{4}$, at 10 per cent. interest, on demand.
9. Cost of lumber for planking a school yard, if it takes 50 planks, each 30 feet long, 36 inches wide, and $2\frac{1}{2}$ inches thick, at \$40 per M. board measure?
10. Find the difference between the square root and the cube root of 9042049, carrying decimals to hundredths only.

GEOGRAPHY.

(50 credits.)

1. Traveling due east from San Francisco, name, in order, the States, Territories, mountain ranges and principal rivers you would cross.
2. Name the five smallest

States in the Union, and compare their aggregate area with that of California. 3. Why can there be but 90 deg. of latitude, while there are 180 deg. of longitude? 4. Name five rivers of South America, five of Europe, and five of Asia. 5. What are the physical causes that produce the Desert of Sahara?

READING.

1. When does the direct address take the falling inflection? Give an example. 2. When do answers to questions take the rising inflection? Give an example. 3. Mark accented syllables in etiquette, obligatory, vagaries, aspirant, precedence. 4. What is modulation? Name the more common tones of voice. 5. What difference should be made between the reading of poetry and the reading of prose?

THEORY AND PRACTICE OF TEACHING.

(50 credits.)

1. "What the child does *for*, and *by himself* educate him." Why? 2. State three leading directions about school government. 3. What you think is the object and aim of all public school education. 4. What were the main principles of teaching made prominent by Pestalozzi? By Froebel? 5. Explain, as you would to a class, the reason why California has no summer rains.

WORD ANALYSIS.

(50 credits.)

1. Analyze ten of the following words, giving root, prefixes, suffixes, and literal meaning: divide, preventive, prevaricate, sublunary, surname, resignation, reversible, Democracy, superseded, improvidence, portable, composition. 2. What suffixes are used to mean "the person who?" 3. In using prefixes from *Co*, what determines the consonant joined to the prefix? 4. Write ten derivatives from the root found in *respect*, and define, literally, five of them.

MENTAL ARITHMETIC.

(20 questions, 1½ credits each.)

1. Cost of 120 lbs of sugar at 16½ cents per pound. 2. Number of ounces in $\frac{3}{4}$ of a pound of gold. 4. Cubic inches in a gallon of water. 5. Square feet in a rod square. 6. Statute miles in a degree. 8. Square inches in a surface $1\frac{1}{2}$ inches square. 8. What is 200 per cent. of one-half? 9. What is the ratio of one-half to one-third? 10. What is the difference between three square feet and three feet square? 12. How many inches in a meter? 13. How many grams in five dekagrams? 14. How many shillings in five pounds, eleven shillings? 15. How many quarts in four bushels? 16. How many gills in three gallons? 17. How many degrees in three-fourths of the circumference of a five cent piece? 18. How many cubic feet in five cubic yards? 19. Change six hours to the decimal of a day. 20. What is one-half of two-thirds of three-fourths?

HISTORY OF U. S. AND CALIFORNIA.

(50 credits.)

1. Principal industry of Colonial Virginia. 2. The origin and use of the Cotton Gin. 8. Name one of the earliest American printers. 4. When and by whom was the electric telegraph introduced? 5. Who invented the sewing machine?

CALIFORNIA.

1. Give location and date of some of the Catholic Missions. 2. What did Col. Fremont do? 3. When and where was gold discovered? 4. Date of opening the Pacific Railroad. 5. Political action in connection with the admission of California into the Union.

ALGEBRA.

(5 questions; 10 credits each.)

1. Define negative terms, dissimilar do., a residual, a trinomial, homogeneous quantities. Give examples. 2. A man sold $\frac{1}{4}$ of his flock of sheep and then bought 3; he then sold 2 more than $\frac{1}{3}$ of his present number; of those remaining he sold 5-6, and then had 15 sheep left. How many had he at first? 3. If plus $\frac{1}{2}$ equals 729, what does plus $\frac{1}{4}$ equal? 4. A number consists of three digits. The 1st and 3d are alike, and the middle one is their sum. The sum of all the digits is 16. What is the number? 5. Divide 9 into two such parts that their product shall be 20. Discuss the problem giving the algebraic deductions.

NATURAL PHILOSOPHY.

(50 credits.)

1. Why does the temperature decrease as the altitude increases? 2. Why does sprinkling the streets cool the atmosphere? 3. Why does the common freezing mixture ice and snow produce cold? 4. What effect has the formation of ice and snow upon the temperature? 5. Why is a wooden floor colder than a carpeted one?

PHYSIOLOGY AND HYGIENE.

1. Explain, as to a class, how the hair turns gray by age. 2. Give some plain directions about the care of the teeth, showing the uses of the first set, or milk teeth. 3. Explain, as to a class, the healing of a flesh wound. 4. Show the necessity for frequent bathing. 5. Why are milk and brown or graham bread the best diet for children from 4 to 15 years of age?

NATURAL HISTORY.

(5 questions; 10 credits.)

1. What is the function of a leaf? What is a double flower? How do exogens grow? 2. What is a cryptogamous plant? Name one insect injurious to the grape, the wheat plant, or the silk worm. 3. Name any insect destructive to orchards, and give the natural history of the same. 4. Give the natural history of the gopher. 5. Also of the ground squirrel, and mode of extermination.

CONSTITUTION OF UNITED STATES AND OF CALIFORNIA.

(25 credits.)

1. Who is commander-in-chief of this State? 2. Are lotteries prohibited? 3. Have all classes of people the right of suffrage? 4. Can a foreign born citizen become President of the U. S.? 5. How may the Constitution be amended?

SCHOOL LAW.

(25 credits.)

1. Does the Law require instruction in manners and morals? 2. May beginners teach primary classes in cities having graded schools? 3. What constitutes a school year? 4. What are legal holidays? 5. Are physical exercises obligatory?

DRAWING.

(25 credits.)

1. State some of the reasons for making instructions in drawing universal and free.
2. Why are the positions for writing and drawing not the same?
3. State two good blackboard exercises in drawing.
4. Dictate directions for drawing a square, its diagonals and diameters.
5. Draw simple, symmetrical curves, concave to a vertical axis.

MUSIC.

(25 credits.)

1. Name some of the advantages of instruction in music in public schools.
2. Does correct training of the "singing voice promote good reading? If so, how?
3. Describe the varieties of pitch,
4. Write the scale, using different varieties of notes.
5. Name the corresponding rests.

WILL some competent teacher give us, briefly the answer to each of the following questions? They are selected from a set in the *Pennsylvania School Journal*; and were used at the recent examination of the graduating classes of the State Normal Schools of that State:

1. In teaching a subject like Geography or Arithmetic to young children, why should we not commence with general definitions?
2. Explain the Socratic method of imparting knowledge.
3. What principle is violated in attempting to teach the objective case of nouns to pupils before they understand the properties of verbs?
9. What is meant by the proposition, "Methods of teaching should be suggestive?"
10. Name the first steps in teaching an empirical science,
11. Name the first steps in teaching a rational science.

EDITOR PACIFIC SCHOOL AND HOME JOURNAL: I submit the following in reply to your request concerning the expression, "What is worth doing at all, is worth doing well."

The expression consists of an Independent Sentence, the subject of which is limited by a Dependent, Adnominal or Adjective Sentence.

Subject of the Independent Sentence is the compound relative pronoun *what as antecedent*; verb and complement, or predicate, *is worth*. Adjunct or modifier of the subject, the adnominal, or adjective, sentence, "What is worth doing at all." Subject of the dependent sentence, *what as relative*; verb and complement, or predicate, *is worth*.

Worth, in either case, is an *adjective*, modifying the subject of the sentence in which it occurs, and is itself modified by the verbal noun *doing*, which sustains to it an *objective*, or *accusative*, relation. *Doing*, in the one case, is limited, or modified, by the adverbial *phrase*, *at all*; in the other case, by the adverb, *all*.

What is a compound relative pronoun, in meaning, equivalent to the expression, *that which, or the thing which*, and used in the triple capacity of subject (as antecedent) in the Independent Sentence; subject, also, (as relative) in the Dependent Sentence, and connective of the Dependent Sentence to the subject of the Independent Sentence.

At all is a prepositional, or adjectival, phrase, *at the* preposition, and *all* the object. The phrase is somewhat indefinite in meaning, and seems to be used for the purpose of giving emphasis to the assertion.

O. S. INGHAM,

Healdsburg, Cal.

BOOK NOTICES.

THE WAR OF AMERICAN INDEPENDENCE, 1775 to 1783. By John Malcolm Ludlow, author of "A Sketch of the History of the United States from Independence to Secession," "President Lincoln Self-portrayed," etc. etc.; with four maps. Boston, Estes & Lauriat; Chicago, Jansen, McClurg & Co.; San Francisco, Payot, Upham & Co., 1876.

This book forms one of the series of little volumes of "Epochs of Modern History," by different authors. It is written by an Englishman, but so far as we notice, in a spirit of singular justice and fairness. It must be a delicate task for a whole-souled Englishman to sit down to write dispassionately the history of the great "struggle between thirteen English colonies and England their Mother Country." Still, this author does it with great prudence. He makes the war an epoch in history, and gives good reasons, which we cannot now produce. One, however, is this: "It split the English race into two nations, and therefore doubled its influence on the destinies of mankind." The book contains eight chapters in which he discusses the races forming the colonies—the white, in all its varieties and their settlements; the black, and its origin in the colonies, and the red race. "Today, the red man, in his highest aspect, is only a roving robber; in his lowest, a vagabond. He is an untamable, irreclaimable savage, whose manifest destiny to modern theorists is to be swept away before a superior race, and indeed we admit that probably no power can now stop his extermination." "But justice is due to the dead, the dying, and the dumb more than to the living and healthy: history shows us the red man in a very different light from that in which we see him now." He makes the white man responsible for the Indian's condition and extinction. He was not once the embodiment of the untamable evil that he now is considered. The knowledge of two of the main products of American agriculture to-day—maize and tobacco, products that have overspread the world—are due to the irreclaimable savage. He makes England responsible for the institution of slavery, Elizabeth being a partner in its trade, and James I, Charles I, and Charles II issuing charters to

slave-trading companies. The causes of the war are given fairly, the history of the long struggle, the paradoxes of the war and its true character and results. The author says the war was begun on the part of England, in ignorance of its true nature; carried on in ignorance, and only stopped when light dawned on the dulled mind of England after eight years of education. He says the war resolves itself into a duel between Washington and George III., for Washington was the soul of the Colonies, and George III the center of resistance to them; take out either character and the war could not have gone on at all. He says, notwithstanding, that Washington was wholly English—a typical Englishman—belonging to them as much as Shakespeare or Milton. He closes with the results of the war on the balance of power in Europe. It is an interesting volume, a compact resumé of the whole subject, and well worth reading. One of the best chapters is that on the paradoxes and puzzles of the war.

OTHER PEOPLE'S CHILDREN, containing a veracious account of the management of "Helen's Babies," by a lady who knew just how the children of other people should be trained; also, a statement of the exact measure of success attained. By the author of "Helen's Babies." New York, G. P. Putnam's Sons; San Francisco, Payot, Upham & Co.

This is the fifth book within a year by this author, and the sale of this single work has already exceeded 25,000 copies. It must have some very attractive quality to induce such a sale. We confess we are quite unable to account for the demand when we try to establish its merits by comparison. But then people in "dog-days" do not stay to institute comparisons. Something pleases a happy few, and they chase it; then they are immediately chased by the multitude. In the negro minstrelsy some indefinable tone thrills some fiber of the soul, and multitudes sit spell-bound by the hour; while across the way Genius is mounting the chromatic scale, or complaining in profoundest minor chords to empty seats. The object of this volume, if we understand it, is to show that "no one can manage children without loving them" with the unfathomable love of the mother, that palliates the fault, overlooks excesses, forgives, not once nor twice, nor "until seven times, but until seventy times seven." And it would take an angel's love to excuse the actions of "Helen's babies." The author admits that the tale is a draft upon the imagination. We readily believe him. No

such babies ever lived. Brooklyn, that produces some remarkable human specimens, we are confident is not equal to two such prodigies in one family. But the characters serve to hang the theory upon, viz: that parents should live and die daily several times for the sake of their children. "I propose to live a new life daily, and learn what life should be for the sake of making them what I would like them to be." This is the philosophy or the sentiment of the volume. Very well! We cannot say it is not good, but we are certain that not one in a million will dare attempt to carry it out in life; but then not one in ten million of professing Christians, we fear, live the Sermon on the Mount.

We wait for Mr. "Burton's" next book, which he intimates will have more thought and care than all five of this set contain concentrated and condensed. Well! we give him a vacation now.

A DAY OF MY LIFE, or Everyday Experiences at Eton. By a Present Eton Boy. New York: George R. Lockwood, 812 Broadway. San Francisco: A. Roman & Co.

This little duodecimo claims to be the experience of a boy, written by himself. He is at school at Eton, and he opens his boy's heart and shows us his real thoughts and emotions through the hours of one day—from six o'clock in the morning till some late hour at night. To an American boy, it is very strange the way they manage in an English school. A boy's maid to come into their rooms and get their fire ready to light before they are up, they carrying on a confab with her all the while; getting up to cook their own breakfast—sausage and tea—the Dame, fagging, tutors, tutor's captain, prayers, Latin verses, poenas, football, swimming, and a great many other things so peculiar, are very interesting to American boys, especially when told by a boy, though to us there is more boy in "Tom Brown at Rugby," told by a man than in this, at any rate, more of a charm. But boys may not think so. He closes with a chapter of explanations of odd words and phrases in vogue at Eton. It is quite a chatty book for boys.

DER DEUTSCHE SPRACHSCHULER. By D. H. Lucken. St. Louis: Central Publishing Company.

As its name implies, this little work, called the German Language Pupil, is intended to introduce the German student into the rules of Orthography, formation of sentences, and German composition. It is, *quite properly*, written in German only, as the English-speaking pupil

will, naturally, have studied an English-German Grammar before attempting to use it.

The arrangement of the book is excellent, and leads the pupil on, by easy stages, and very systematically, to a point where he can master the language sufficiently to write an easy composition. The two little parts before us are intended for elementary and middle classes, and the work will doubtless be continued to a more advanced stage. We can safely recommend it.

THE FIBEL, for the first instruction in Reading and Writing, by the same author, likewise deserves the highest praise. Print and German script are neat and clear, and the little Primer has the advantage of giving the American pupil the meaning of the words in English. It directs the teacher in putting suitable questions relating to the text, and the gradual and systematic progress from the easier to the more difficult exercises, cannot but recommend it warmly to every German teacher.

D. H. Lucken's Series of German Copy-books are the best we have ever seen. They combine the most modern improvements in similar English and German copy-books, and are the first that divide the German letters into their elementary principles. The traced letters, and equal division of space in the elementary numbers, are a great improvement, and will aid the scholar to acquire rapidly a good German handwriting. We have the opinion of some of our best German teachers as to the excellence of the series.

WE have received, from D. Appleton & Co., New York, AN AMERICAN HISTORY FOR SCHOOLS, by G. P. Quackenbos. The book is worthy of an extended review, which we shall give it in our next issue.

FROM A. Roman & Co., San Francisco, we received, in addition to books reviewed, THE HERITAGE OF LANGDALE, by Mrs. Alexander, and Auerbach's POET AND MERCHANT, which we shall notice in our October number.

CONSIDERABLE information in regard to the schools of Oregon came in too late for classification and publication this month. The matter is of such general interest that it will appear in our next issue.

THE *Popular Science Monthly*, for September, is at hand, filled with the usual excellent selection of interesting matter.

No scholarly reader will consider the statement exaggerated, that this is the best magazine of its class in the world. Teachers will find a regular perusal of its pages a great benefit; for in no more agreeable and effective manner, can they keep up with the advance of physics and metaphysics than through the pages of this journal.

THE EASTERN QUESTION : RUSSIA AND TURKEY, by James M. Bugbee ; MODERN GREECE, THE PRINCIPALITIES OF THE DANUBE, A BRIEF HISTORY OF MONTENEGRO, by George M. Towle ; A BRIEF HISTORY OF RUSSIA, by Frances Shaw ; A BRIEF HISTORY OF TURKEY, by Dr. Johannes Blockwitz : 16mos. Price 25 cts. each. Boston : James R. Osgood & Co. San Francisco : A. Roman & Co.

Under the above rather formidable title are published six little books; each complete in itself, but taken together, giving the American reader a fair insight into a struggle, destined at some future day—if not now—to convulse the whole Eastern Continent. The Turks die hard; and the interests involved are too varied and important for a few campaigns forever to settle the vexed Eastern Question. All the nations and interests immediately involved are ably treated in these little 16mos. A clearer idea of every phase of the struggle can be learned from these than by the perusal of more ponderous tomes. The first volume, "Russia and Turkey," by James M. Bugbee, treats of the political and social questions which directly led to the present war. It is political rather than historical in its nature. With no particular bias toward either of the great combatants, it relates events, and leaves the reader to form his own conclusions. The other little books are brief sketches of the countries whose names they bear. Apparently, no attempt is made to give a philosophical history. Indeed, the works are too brief for anything but a short *resume* of the salient events in the history of south-eastern Europe. These are given in a vigorous, interesting style. To teachers, who at present, find their classes unusually awake on the geography and history of Europe, we can safely recommend these books, as well as to those who desire to keep themselves thoroughly informed on current events.

The pretty little song published this month was selected from the *Pennsylvania School Journal*.

BOYS' AND GIRLS' DEPARTMENT.

Edited by Mrs. L. A. K. Clappe.

(small) Pic-a-ma-head at The Schoolboy's)

SNOWFLAKE: A DIALOGUE.
School Exhibitions.
 WRITTEN BY EMMA WARD, NELLIE BRACKETT,
 AND LIZZIE SHORT, PUPILS OF THE
 DENMAN SCHOOL.

CHARACTERS

SNOWFLAKE	Princess of Wonderland.
QUEEN	Her cruel stepmother.
FROSTFERN	Prince of Trebizond.
RUDOLPH	A hunter.
CARL	A page.
SEVEN PYGMIES.	

[A room in the palace. Enter Queen.]

Queen.—For many years, my courtiers have called me the most beautiful woman in the world. But it seems to me that lately they have not repeated those charming words so often as they used to do. Is it possible that my far-famed loveliness is beginning to fade? But, no, I will not believe it; for I am still young. However, I shall soon know the truth; for the gift of my fairy god-mother has never failed me.

[Rings a bell. Enter page.]

Carl, bring me the magic mirror.

[Exit page, who re-enters with mirror.]

Queen.—

Mirror! mirror! that I hold in my hand,
 Who is the fairest in all the land?

(Voice outside.)—

Thou *wert* the fairest, O lady Queen!
 But Snowflake is fairer now, I ween.

Queen.—My hated step-daughter! O, it is not for nothing, then, that I have always detested her! But the little wretch shall

perish for her presumption, and that speedily.

[Enter page.]

Page.—Madam, the Prince of Trebizond desires an audience with Your Majesty.

Queen.—I will see him presently. Carl, send the hunter to me without delay.

[Exit page.]

And now, how to dispose of my baby-faced rival. Let me think. Ah! I have it!

[Enter hunter.]

Rudolph, I wish you to take Snowflake into the forest and kill her. Bring me her heart and tongue as a token that you have obeyed my orders.

Hunter.—Madam, you are my Queen, and I must fulfil your wishes.

[Exeunt Queen and hunter.]

[Scene in the forest. Enter hunter, leading Snowflake.]

Rudolph.—My poor little Snowflake! the Queen has commanded me to kill you, and to carry to her your heart and tongue as a token of my obedience.

Snowflake. (kneeling.)—O, dear, dear, Rudolph! spare my life, I am too young to die. The Queen will not know that you have disobeyed her; for I will stay in the forest always, and never, never, return to the palace!

Rudolph.—Alas! poor innocent! Even now the Queen is impatiently waiting for the tokens of your death. If I do not obey her, I, and all my family, will perish.

[The growling of a bear is heard.]

But, hark! A happy thought strikes me. Run away, dear child. I will slay this savage beast, and take to the Queen his

heart instead of yours. Heaven grant that she may be deceived.

[*Exeunt hunter and Snowflake, at opposite doors.*]

[*Re-enter Snowflake before dwarfs' house.*]

Snowflake.—O, what a pretty little house! And the door is open, too! I wonder if it would be wrong to go in? Perhaps good people live here, who would let me work for them.

[*Enters.*]

O, what funny chairs! and these seven cute little beds! They must be very tiny persons that can sleep in them.

[*Hearing noise, looks out of window.*]

O, what shall I do? There come the pygmies, and I cannot escape. Perhaps they will kill me; and yet they look kind.

[*Enter seven pygmies, dressed as miners, with pickaxes, chanting the following rhyme.*]

Pygmy.—

Delve and dig, delve and dig,
All day, pygmies, little and big.

[*They march two or three times round Snowflake—who kneels, with clasped hands—and repeat the refrain.*]

First Pygmy.—O, brothers, look at this beautiful creature. Did she fall from the clouds, I wonder? How did you come here, pretty maiden? Do not be frightened, but rise and answer.

Snowflake.—O, sirs, I could not help it. My cruel step-mother told the hunter to kill me; but he was sorry, and shot a bear instead. I saw this pretty little house, and I thought kind people must live in it, who would give me something to eat; for I am so hungry.

Second Pygmy.—Certainly, my little dear; and, as you can never return to the palace with safety, perhaps you would like to stay here and take care of our house.

Snowflake.—That I will, with all my heart; and I will try my best to please you.

Second Pygmy.—You will not find that very difficult. But what shall we call you, beautiful maiden?

Snowflake.—My name is Snowflake.

Second Pygmy.—Well, Snowflake, we shall expect you to put the house in order, and prepare dinner. Be careful, and let no one enter during our absence; for there are witches in the forest, who would gladly do you an injury.

[*Pygmies march out, chanting.*]

Delve and dig, delve and dig,
All day, pygmies, little and big.

[*Scene, Queen's chamber.*]

Queen.—Ah! how my heart beats! When, when will the hunter return?

[*Enter hunter.*]

At last he comes. Well, sir, have you obeyed my orders?

Hunter.—The signs of my obedience are in the hands of the cook. She wishes to know what to do with them.

Queen.—What she pleases. I care not. Let her bury them under the rose tree at the foot of the garden.

[*Exit hunter.*]

Now I am indeed happy! No fairer woman lives. Come, dear mirror [*takes it up*], and repeat to me the joyful words.

Mirror! mirror! that I hold in my hand,
Who is the fairest in all the land?

(*Voice outside.*)—

Thou wert the fairest, O lady Queen!
But Snowflake is fairer now, I ween.
Amid the forest, so dark and green,
She lives with dwarfs, the hills between.

Queen.—Snowflake alive again! The hunter has dared to trifle with me; then! But I will not be insulted with impunity; nor again be cheated out of my revenge. This time my own hand shall do the deed.

[*Exit.*]

Act II

[*In the dwarfs' house. Enter Snowflake, who sings the following song:*]

Tune.—“Forty little urchins.”

Seven little tables set just so,
Seven little soup-plates all in a row;
Seven little tea-cups, in each a spoon,
Seven little pygmies will drink from them soon;
Seven little bedsteads all dressed in white,
Seven little pygmies in them at night;
Seven little rocking-chairs sitting in the sun,
And to see the pygmies in them; O, what fun!

Owing to the unusual pressure of every description of matter on our columns, we are compelled to defer the remainder of this interesting and creditable little dialogue until our next issue.—[ED. JOURNAL.]

THE LETTER.

BY CLARA G. DOLLIVER.

"Hullo, letter-ma-an!"

She was standing on the top-step of "her house"; a very round, very rosy little damsel, in a red dress, a white apron, a red-and-white shawl, and white sun-bonnet—all red and white, in fact, from her shoes and stockings to the top of her head, which was covered with creamy-white curls.

She pointed her fat finger at Dick, the post-boy, and said saucily, but half afraid :

"Hullo, letter-ma-an!"

Then, with her hand on the door-knob, all ready to escape if necessary, added, "Give me a letter, letter-ma-an!"

"Come and get one," said Dick, holding out his package.

She descended the steps slowly and warily.

"Won't you hurt me?" she inquired.

Dick laughed a jolly laugh; "Come and see."

"I se 'fraid," said she, doubtfully.

"I won't hurt you; got a little sister about your size," returned Dick, encouragingly.

She stepped down another step.

"What's your sister's name?" she inquired.

"Lillie," said Dick, "and she looks just like a lily; she's as white."

"And my papa says I am just as red as a rose, and that's my name, too. Ain't it funny?"

"Very funny!" returned Dick, with a pleasant smile; "but I can't stay any longer to-day; I'll bring you a letter tomorrow."

"Truly?" asked Rose.

"Truly!" said Dick.

"Good-bye."

"Good-bye, letter-ma-an," answered the little damsel, less saucy and more friendly than before.

That night, when Dick got home, he found Lillie at the gate waiting for him; he took her up in his arms, for she was a wee bit of a girl, and told her about Rose, as they went up the garden path.

"She's just about your size, but I don't think she's as old," he said. "Let me see, how old are you?"

"Five," said Lillie, in a very precise tone, as though she had made mistakes, but was very sure this time.

"Yes"; said Dick, "well, I think Rose is about four, but she would weigh almost twice as much as you do. I couldn't carry her on one arm as long as this. Her little cheeks stick out, and are as red as roses."

"How nice she must be," said Lillie, admiringly.

"And I want you to write her a letter," said her brother.

"Me? Why, Dick! You know I tant write. Only make big A's and H's. Today I twide a B, but I tant make it wite. It looks widicillous."

"Does it, sweet?" loving Dick said, kissing her, so that she might not see him grin, "Well, I'll write it for you, but you must tell me what to say."

"Yes; and I'll send her one of my 'ittle pictureses."

"All right!" he answered. "Now let's eat supper. Supper ready, mother?"

"Lillie is not well to-day, and must go right to bed," said the mother when the meal was over.

"But I must write my letter first," said the little girl, anxiously.

"Yes; come and sit on my knee, and we'll write it right now," said Dick.

So Lillie got out her "'ittle pictureses," and they selected one to send, after which Dick wrote this letter on a piece of pretty pink paper:

"DEAR ROSE:—I can't write, but Dick can. He can make a "B" easy as anything. I'll send you this picture; I've got seven; but this is the beautifulest. It's roses because you are Rose. [kiss.] There is a big kiss right here. LILLIE."

Dick wrote this just exactly as his little sister talked, except the lisp, which did not seem exactly right to put in a letter.

Then, as soon as she had pressed her sweet lips to the place marked "kiss," her mother came and carried her off to bed.

The next morning, when Dick came along, Rose stood on the top step, in the same scarlet dress, and shawl, and sunbonnet, and a fresh, clean, white apron.

"Hullo! letter-ma-an," she piped, as soon as Dick turned the corner; "Dot any letter for me?"

He nodded, and held it up.

"Is it truly for me, and dot my name on it?" cried Rose, gleefully.

He nodded again; and, with a little squeal of delight, Rose half ran, half tumbled down the steps, seized it, and flew into the house, too much excited even to say "Thank you."

When her mother opened it, read it, and showed her the picture, her delight knew no bounds. She went out to the door, and catching a glimpse of Dick just going around the next corner, she ran after him, calling out at the top of her voice, "Oh! letter-ma-an! Stop a minute!"

Dick, good-naturedly waited, when she panted out, "Tell Lillie! Now, I'm going to send her a new letter to-morrow, I am. My mamma says so."

"All right, I'll tell Lillie," said Dick; "she's sick in bed to-day."

"What for?" asked Rose, wide-eyed with astonishment at anybody's being sick, when it was so much jollier to be well.

"What for? Well, I don't know;" said the letter-man, with a sorrowful shake of the head. "Lillie's often sick. You never are, I suppose."

"Oh yes!" said Rose, mournfully, as if she was quite an invalid. "Once I had a cold."

"Well! well!" said Dick; "how dreadful! Run in now, quick, or you'll get another."

When he reached home that evening, he found Lillie feverish and restless.

"Where's my letter?" she demanded, the moment she saw him.

"I gave it to little Rose, pet," said her brother.

"And the woeses, too?"

"Yes, of course, dear."

"And didn't she tend me none?"

"Not to-day, dear; to-morrow, perhaps. She said she would send one to-morrow."

"I'm tick," said Lillie.

"I know, dear," said her brother, proceeding to play doctor by feeling her pulse, looking at her tongue, and down her throat, and asking what she had eaten that day.

The next day he saw nothing of Rose, although he walked very slowly, and looked up at the window; he did so hate to disappoint little Lillie, who looked forward very eagerly to the letter, and who was so much worse that day that they had a real doctor come to see her, who looked very grave as he felt her pulse, and looked at her tongue.

The next morning Rose was out on the step as usual, but with no letter in her hand. Poor little Lillie had asked so eagerly and trustfully for one when he reached home the day before, that he felt almost angry to see this red-cheeked, round little girl standing there without one.

"Dot anozer letter for me, letter-ma-an?" asked Rose.

"No," said Dick, rather shortly. "You have not sent one to Lillie yet."

"I ferdot it; so did my mamma, tause the took left; but I'll send it to-morrow," said Rose.

"Oh!" said Dick. "Well, Lillie's very sick, *very* sick."

"What for?" she demanded again, but received no reply; for Dick felt the tears coming into his eyes, and hurried on.

His mother met him that night at the door.

"Oh Dick!" she said, "Lillie is much worse. She keeps calling for that letter all the time, and she doesn't know me."

All that night, as the frail little child, burning with fever, tossed to and fro in her narrow bed, she repeated, over and over again, "Where's my letter, Dit?" "Dive me Wose's letter, Dit." until their hearts ached to think how deep her disappointment must have been. Such very little things make up the sum of a child's life; of all our lives.

In the morning, the doctor came, and Dick left home with a heavy heart. Rose, all smiles, met him with a tiny, dainty, little letter; but his voice choked when he would have thanked her, and he hurried on with a smile and nod. Would her blue eyes glisten with pleasure to see it, or was it too late?

Too late! It was never opened. They put it in her little waxen hand, and closed the fingers over it, grieving the more to think that one little grief had touched with its shadow the close of her sweet life.

LIBERTY.

[Extract from an Oration delivered at San Francisco, July 4, 1877.]

BY HENRY GEORGE.

THEY who look upon Liberty as having accomplished her mission, when she has abolished hereditary privileges and given

men the ballot, who think of her as having no further relations to the every-day affairs of life, have not seen her real grandeur—to them the poets who have sung of her must seem rhapsodists, and her martyrs, fools. As the sun is the lord of life, as well as of light; as his beams not merely pierce the clouds, but support all growth, supply all motion, and call forth, from what would otherwise be a cold and inert mass, all the infinite diversities of being and beauty, so is liberty to mankind. It is not for an abstraction that men have toiled and died; that, in every age, the witnesses of liberty have stood forth, and the martyrs of liberty have suffered. It was for more than this that matrons handed the Queen Anne musket from its rest, and that maids bid their lovers go to death!

We speak of liberty as one thing, and of virtue, wealth, knowledge, invention, national strength and national independence as other things. But, of all these, Liberty is the source, the mother, the necessary condition. She is to virtue what light is to color; to wealth, what sunshine is to light; to knowledge, what eyes are to the sight. She is the genius of invention, the brawn of national strength, the spirit of national independence. Where Liberty rises, there virtue grows, wealth increases, knowledge expands, invention multiplies human powers, and in strength and spirit the freer nation rises among her neighbors as Saul amid his brethren—taller and fairer. Where Liberty sinks, there virtue fades, wealth diminishes, knowledge is forgotten, invention ceases, and empires, once mighty in arms and arts, become a helpless prey to freer barbarians.

Only in broken gleams and partial light has the sun of Liberty yet beamed among men, yet all progress hath she called forth.

Liberty came to a race of slaves, crouching under Egyptian whips, and led them forth from the House of Bondage. She hardened them in the desert, and made of them a race of conquerors. The free spirit of the Mosaic law took their thinkers up to heights where they beheld the unity of God, and inspired their poets with strains that yet phrase the highest exaltations of thought. Liberty dawned on the Phenician Coast, and ships passed the Pillars of Hercules to plow the unknown sea. She broke in partial light on Greece, and marble grew to shapes of ideal beauty,

words became the instruments of subtlest thought, and against the scanty militia of free cities the countless hosts of the Great King broke like surges against a rock. She cast her beams on the four-acre farms of Italian husbandmen, and, born of her strength, a power came forth that conquered the world. She glinted from shields of German warriors, and Augustus wept his legions. Out of the night that followed her eclipse, her slanting rays fell again on free cities, and a lost learning revived, modern civilization began, a new world was unveiled; and, as Liberty grew, so grew art, wealth, power, knowledge and refinement.

LORRAINE.

[This spirited poem is said to be the last written by the late Charles Kingsley. The curious refrain, "*Barum, barum,*" has puzzled many, but the explanation seems obvious when once suggested. First of all it must be read with the stress on the second syllable, so as to run—"Barúm-Barúm-Barúm-Barúm-Barúm-Baré!" So much is clear for metrical reasons. The rest is guess work. But what strikes us is very simple. Many a riding master or circus master has lived by his wife's performances, and perhaps Kingsley had heard just then of some such case very much like that of the main incident of the ballad. (There was such an occurrence in London.) Now let us figure to ourselves a jaunty blackguard of that stamp, with his smoking cap cocked loosely, and the music of the circus band in his head. He goes about to wheeble—and at last to bully—his wife into riding a dangerous horse, and while he does so, in the pauses of the talk, he *hums* the music of the brass instruments and the drum : "Barum-Barum - Barum - Barum - Barum-Barum-Baree," and this makes a natural refrain to the ballad.]

"Are you ready for your steeple-chase, Lorraine,
Lorraine, Lorree ?
Barum, Barum, Barum, Barum, Barum, Barum,
Baree.

You're booked to ride your capping race to-day
at Coulterlee,
You're booked to ride Vindictive, for all the world
to see,
To keep him straight, and keep him first, and win
the run for me.

Barum, Barum," etc.

She clasped her new-born baby, poor Lorraine,
Lorraine, Lorree,

Barum, Barum, etc.

"I cannot ride Vindictive, as any man might see,
And I will not ride Vindictive, with this baby on
my knee :
He's killed a boy, he's killed a man, and why
must he kill me ?"

"Unless you ride Vindictive, Lorraine, Lorraine,
Unless you ride Vindictive to-day at Coulterlee,
And land him safe across the brook, and win the
blank for me,
It's you may keep your baby, for you'll get no
keep from me."

"That husbands could be cruel," said Lorraine,
Lorraine, Lorree,
"That husbands could be cruel, I have known
for seasons three;
But oh! to ride Vindictive while a baby cries for
me,
And be killed across a fence at last, for all the
world to see!"

She mastered young Vindictive—oh! the gallant
lass was she!—
And she kept him straight, and won the race, as
near as near could be;
But he killed at the brook against a pollard wil-
low tree,
Oh! he killed her at the brook—the brute!—for
all the world to see,
And no one but the baby cried for poor Lorraine,
Lorree.

Plant in the Spanish Garden.

1. The rising sun. 2. George Washington and
a little hatchet. 3. A friar's cowl. 4. Shelly's
sky-lark. 5. A pearl. 6. A dancing-girl. 7.
A hand. 8. The mouth of a cave. 9. A pair
of human features. 10. The eldest son of an
English king.

Enigmas—Authors.

1. Two novelists whose names express the
positive and comparative degrees of darkness.
2. The sound made by a bird and that made by
an animal. 3. Family relations. 4. A bull-
frog. 5. Sly-bacon. 6. A cardinal point, and
a natural division of land. 7. What all men
have, and yet what tyrants do not have. 8. Drop-
ping into poetry, commands a sheep to see. 9.
What no man would like to be called. 10. Re-
lating to more. 11. Material of an English
hedge. 12. Necessary to comfort in winter. 13.
A pedestrian. 14. A nickname and a name.
15. Bumps. 16. A royal house. 17. Seven.
18. Glittering specks. 19. Acute. 20. Princi-
pal. 21. An infant. 22. Habitation of an Eng-
lish lawyer. 23. A decanter of wine. 24. A
small tree. 25. A singing bird. 26. A small
stream. 27. A job-carpenter. 28. Command to
a bread-maker. 29. A celestial inhabitant.
30. A sufferer with pleurisy. 31. A nickname,
a bird, a biped.

Anagrams.

A statesman—a novel—a warrior—a Greek
god.

1. I call Abram on. 2. Ha! I troll. 3. Go,
shine on, great G. W. 4. O, a Poll!

Metagrams.

1. Complete, I am he who sows tares while
the husbandman sleeps. Behead me and I am
what a great poet makes me call "my good!"
Behead me again and I am utterly bad. Behead
me a fourth time and I am wickedness itself.
Behead me once more, and I am a cockney's
pronunciation of that place which is never
mentioned to ears polite.

2. Complete, I inspire awe. Behead me and
curtail me at the same time and I am a mere
jest.

3. Complete, I am the generic name of nine
maiden ladies of world-wide renown. Behead
me and I am utility. Curtail me and I am confu-
sion. Behead and curtail me at the same
time, and I am a personal pronoun.

Answers to Enigmas in August Number.

1. Ohio. 2. Orange. 3. Lena. 4. Amoor.
5. Spree. 6. Oder. 7. Po. 8. Blackwater.
9. Ouse. 10. Mersey. 11. Dee. 12. Pilcomayo.
13. Tocatins. 14. Amazon. 15. un -Ur
guay. 16. Colorado. 17. Salmon. 18. Hum-
boldt. 19. Platte. 20. Niagara. 21. Gila. 22.
Vukon.

Authors.

1. Nott. 2. Moore. 3. Marryat. 4. Lynch.
5. Lemon. 6. Leaver. 7. Knight. 8. Key,
9. Hyde. 10. Bird. 11. Jay. 12. Hunt. 13.
Hood. 14. Swift. 15. Hemans. 16. Heald,
17. Hall. 18. Gore. 19. Gay. 20. Fuller.
21. Frost. 22. Fox. 23. Foote. 24. Flash.
22. Field. 25. Fay. 26. Clay. 27. Cooke.

Metagrams.

1. Meat. 2. Grace.

Flowers.

1. Dandelion. 2. Marigold. 3. Maiden-hair.
4. Hickory. 5. Amaranth. 6. Sumach. 7.
Yew tree. 8. Bread-fruit. 9. Century plant.
10. Bitter-sweet.

ALWAYS SPEAK THE TRUTH.

C. MATZ, arr.

1. Be the mat - ter what it may,
2. There's a charm in ver - i ty,
3. When you're young, the fol - ly own,

Always speak the truth; Wheth-er work or
Always speak the truth; But there's e - vil
Always speak the truth; Here's a vic - t'ry

whether play, Always speak the truth,
in a lie, Always speak the truth,
to be won, Always speak the truth,

Nev-er from this rule de-part, Grave it deeply
He is but a coward slave Who, a present
He who speaks with lying tongue, Adds to wrong a

on your heart; Wit-ten 'tis in Vir-ture's chart,
pain to waive, Stoops to false-hood ; then be brave,
great-er wrong, Then with courage true and strong,

Al - ways speak the truth.
Al - ways speak the truth.
Al - ways speak the truth.

Geo. W. Hagans, Music Typographer. 518 Clay St. S. F.

Six Little Feet on the Fender.

In my heart there liveth a picture
Of a kitchen rude and old,
Where the firelight tripped o'er the rafter,
And reddened the roof's brown mold,
Gilding the steam of the kettle,
That hummed on the foot-worn hearth,
Throughout all the livelong evening,
Its measure of drowsy mirth.

Because of three light shadows
That frescoed that rude old room—
Because of the voices echoed
Up 'mid the rafter's gloom—
Because of the feet on the fender,
Six restless, white little feet—
The thoughts of that dear old kitchen
Are to me so fresh and sweet.

When the first dash at the window
Tells of the coming rain,
Oh ! where are the fair young faces

That crowded against the pane,
While bits of firelight stealing
Their dimpled cheeks between
When struggling out in darkness
In shreds of silver sheen ?

Two of the feet grew weary,
One dreary, dismal day,
And we tied them with snow-white ribbons,
Leaving them by the way.
There was fresh clay on the fender
That weary winter night,
For the four little feet had tracked it
From the grave on the bright hill's light.

Oh ! why, on this darksome evening,
This evening of rain and sleet,
Rest my feet all alone on the hearthstone ;
Oh ! where are those other feet ?
Are they treading the path of virtue
That will bring us together above,
Or have they made steps that will dampen
A sister's tireless love ?

THE PACIFIC SCHOOL AND HOME JOURNAL.

VOL. I.

SAN FRANCISCO, OCTOBER, 1877.

No. 8.

ORAL EXAMINATIONS.

BY A. HERBST.

For a principal of a school, it is of the utmost importance to know at any time the standing of any class in any subject, as to form a nearly accurate idea concerning it.

He may wish to compare different classes of the same grade, he may wish to see how different teachers have brought up their classes in some particular subject, or he may be anxious to see how the classes have mastered the work of the next lower grade.

In a school of many classes it is a slow and tedious proceeding, on the part of the principal, to take up all the different branches and form an approximately correct idea of a class by an oral examination.

A person may spend a few hours on Geography, for instance, may go several times around the class examining, and at the end he will probably have no better idea of their geographical knowledge, but that some have answered well, and some

have not. The same result will attend examinations in History, Word-analysis, Definition, Physics, and what all the rest may be. The only subject that admitted a different treatment seemed to be Mental Arithmetic, in which subject a whole class might receive the same questions, have a certain time allotted to think, and write down the answer on a slip of paper.

Since the adoption of this plan considerable saving of time has been effected. I remember with horror the agony of examining over one hundred candidates at the quarterly examination of teachers, in Mental Arithmetic, taking them singly. Not many years ago, principals in this city were expected to examine every pupil in their schools in Mental Arithmetic, and I believe I was the first one to take ten scholars at the time into my office, give them the same questions, and credit them according to the correctness of the answers written down on their slates.

This was about five years ago, and in

talking over this mode of examining with one of my school-teachers, she suggested the idea whether the subject of Grammar might not be treated in the same way. We tried it, and with success.

Since that time I have applied this oral plan to almost every subject of the course of instruction, and found it a most excellent plan to measure a class quickly on any subject. Of course the questions must be carefully framed, must admit but one short answer, and questions commencing with the word "describe" must be altogether omitted.

But then the advantage is very great. A principal or examining teacher can know more about the standing of a class in a given subject in a quarter of an hour by giving the same ten short questions to all than by spending half a day asking hundreds of different questions all around. The average per cent. of the class can be made out in a few minutes, and although it is not always advisable to proclaim the result, yet the examiner has it for his own satisfaction and guidance.

I append a few sets of questions in different subjects, repeating that I found the plan very successful to reach the objects named at the commencement:

Geography—Third. Grade.

1. What State south of Indiana? Kentucky.
2. Largest island of the Japan Group? Nippon.
3. What island north of Sardinia? Corsica.
4. What State in South America west of Argentine Republic? Chili.
5. Distance of the moon from the earth? 240,000 miles.
6. What is the distance north and south of the Equator called? Latitude.
7. Chief commercial city of South America? Rio Janeiro.
8. On what side of the Hudson is Albany? West, or right.
9. What separates Spain from Africa? St. of Gibraltar.
10. Largest city in Australia? Melbourne.

Word-analysis—Second Grade.

1. Root of atonement? One.
2. Synonym of tasteless? Insipid.
3. What suffix makes "fame" an adjective? Ous.
4. When the suffix "al" is added to a verb, what part of speech is formed? A noun.
5. What prefix means "with," or "together"? Co, con.
6. What science treats of the division or origin of words? Etymology.
7. Form a word from soft. Soften.
8. What suffix makes "tranquil" a verb? Ize.
9. Meaning of prefix "super"? Above.
10. What part of speech is "distaste"? Noun.

Grammar—First Grade.

1. Opposite gender of witch? Wizard.
2. What parts of speech have person, number, gender, and case? Nouns and pronouns.
3. Give present participle, passive, of strike. Being struck.
4. I dare not look at him. Mood of look? Infinitive.
5. He studies that he may learn. What part of speech is that? Conjunction.
6. Where are you going next vacation? Case of vacation? Objective.
7. We sailed down the river. Part of speech? Preposition.
8. Is this the man you spoke of? Kind of sentence? Complete, interrogative.
9. This is but doing our duty. Part of speech? Adverb.
16. You can take either road. Part of speech? Adjective.

History—Second Grade.

1. First settlement in California? San Diego.
2. Who gained the battle of Lexington? Americans.
3. What year were the articles of Confederation adopted? 1777.
4. Name of an English statesman in favor of repealing the stamp-act? Ed. Burke, Wm. Pitt.
5. Give the year of King George's war. 1744.
6. Old name for Nova Scotia? Acadia.
7. Which is the last founded colony? Georgia.
8. Date of the founding of Virginia? 1607.
9. Name of the chief promoter of the settlement of Maryland? Lord Baltimore.
10. Who discovered the Mississippi? F. De Soto.

THE NORWEGIAN LEMMING AND ITS MIGRATIONS.

BY W. DUPPA CROTCH, M. A., F. L. S.

The reader is now in a position to consider the three questions raised by the facts stated in our first paper, and those questions are as follows: 1. Whence do the lemmings come? 2. Whither do they go? 3. Why do they migrate at all? With regard to the first, no one has yet supplied an answer. They certainly do not exist in my neighborhood during the intervals of migrations; and the Kjolen range was probably selected as their habitat, not because it was proved to be so, but because so little is known about it at all. The answer to the second question is certain: They go to the sea. Those on the east of the backbone of Norway go to the Gulf of Bothnia, and those on the west to the Atlantic Ocean, and out of eighteen migrations which have been investigated, one only, and that very doubtful, is reported to have been directed southward. The question as to the cause of these migrations remains, and is a very difficult one to answer. We have been told that the foreknowledge of approaching severe weather predetermines the exodus: my experience, however, contradicts this, and it may be dismissed as merely a popular superstition. Unusual reproduction and consequent deficiency of food is a more plausible theory; but I have always noticed that, just as with the swallow, a few individuals have preceded the main body, and that during the first autumn the numbers are never large, but, after a winter spent beneath the snow, they begin to breed with the first days of summer, and thus develop the extraordinary multitude which is, as it well may be, the astonishment and terror of the country. It appears, then, that excessive reproduction is rather the result than the cause of migration. It has also been suggested that

the course taken by the lemmings follows the natural declivities of the country, but a reference to the maps will show that in that case nearly all the Norwegian migrations should take a southerly route, which is by no means the case. On the contrary, westward at Heimdalén means across a rapid river, over a wide lake, and up a steep, rocky, and snowy mountain, and this is the course which is followed. Now, this ends eventually in the ocean, and thus we are again landed at the question from which we set out. After all, it is not the power of direction which is so remarkable; this is a faculty possessed by many animals, and by man himself in a savage state. A young dog which I took from England, and then from my home in Vaage by a path to Heimdalén, a distance of forty-six miles, ran back the next morning by a direct route of his own, crossing three rapid rivers and much snow, and accomplishing the distance in six hours, without the vestige of a path. The same dog afterward repeated the feat, but followed the path, and took two days in reaching his destination, hindered and not aided, as I believe, by his experience. Herr Palmen, indeed, says, "Experience guides migration, and the older migrants guide the younger," like one of Mr. Cook's personally-conducted tours. This obviously cannot be the case with the lemmings.

It is now generally admitted that instinct is merely inherited experience, and is, therefore, primarily calculated to benefit the species, unless, indeed, circumstances have changed meanwhile more rapidly than the structures to which the phenomena of instinct are due. Now, the lemmings during their wanderings pass through a land of milk and honey, where, if their instincts could be appeased, they might well take up a permanent abode; and yet they pass on, while their congener, the field-vole, remains in quiet possession of the quarters from which he was temporarily

ousted. It is, indeed, almost as strange a sight to see the holes, the deeply-grooved runs, and the heaps of refuse, of these restless creatures, which have passed away but yesterday, as it is to see the fields suddenly become alive with a new and boisterous tenant, who, like another Ishmael, has the hand of all men against him.

Now, if we compare the migration of the lemmings with that of our more familiar swallows, we find that the latter obviously seek a more genial clime and more abundant food, returning to us as surely as summer itself; nor do they ever, so far as I know, breed on their passage. The swifts, which stay but a short time with us, remain in Norway barely long enough to rear their young before returning to Africa. It is difficult, in fact, to find a parallel case to that of the lemmings. The nearest approach, perhaps, is afforded by the strange immigration of Pallas' sand-grouse in 1863, when a species, whose home is on the Tartar steppes, journeyed on in considerable numbers to the most western shores of Europe, and very probably many perished, like the lemmings, in the waves of the Atlantic. But to revert to the swallows, which annually desert Europe to visit Africa. Let us suppose that these birds were partial migrants only—that is, that a remnant remained with us after the departure of the main body—and further suppose that the continent of Africa were to become submerged, would not many generations of swallows still follow their inherited migratory instincts, and seek the land of their ancestors through the new waste of waters, while the remaining stock, unimpeded by competition, would, sooner or later, according to the seasons, recruit the ranks for a new exodus? It appears quite as probable that the impetus of migration toward this lost continent should be retained as that a dog should turn round before lying down on a rug, merely because his ancestors found it necessary thus

to hollow out a couch in the long grass. Well, then, is it probable that land could have existed where now the broad Atlantic rolls? All tradition says so; old Egyptian records speak of Atlantis, as Strabo and others have told us. The Sahara itself is the sand of an ancient sea, and the shells which are found upon its surface prove that no longer ago than the Miocene period a sea rolled over what now is desert. The voyage of the "Challenger" has proved the existence of three long ridges in the Atlantic Ocean, one extending for more than 3,000 miles; and lateral spurs may, by connecting these ridges, account for the marvellous similarity in the fauna of all the Atlantic islands. However, I do not suppose that the lemmings ever went so far south, though they are found as fossils in England; but it is a remarkable fact that, while the soundings of Norway are comparatively shallow for many miles, we find a narrow but deep channel near Iceland, which probably has prevented the lemming from becoming indigenous there, although an American species was found in Greenland during the late arctic expedition. If, as is probable, the Gulf Stream formerly followed this deep channel, its beneficent influence would only extend a few miles from the coast, which would also have reached to a great distance beyond the present shores of Norway, and thus the lemmings would have acquired the habit of traveling westward in search of better climate and more abundant food; and, as little by little the ocean encroached on the land, the same advantages would still be attained. And thus, too, we find an explanation of the fate which befalls the adventurous wanderers; for we have already seen that no lake deters them, and that they frequently cross the fjords, or arms of the sea, in safety. No doubt, therefore, they commit themselves to the Atlantic in the belief that it is as passable as those lakes and fjords which they have already

successfully dared, and that beyond its waves lies a land which they are never destined to reach.

The submerged continent of Lemuria, in what is now the Indian Ocean, is considered to afford an explanation of many difficulties in the distribution of organic life, and I think the existence of a Miocene Atlantis will be found to have a strong elucidative bearing on subjects of greater interest than the migration of the lemming. At all events, if it can be shown that land existed in former ages where the North Atlantic now rolls, not only is a motive found for these apparently suicidal migrations, but also a strong collateral proof that what we call instincts are but the blind and sometimes even prejudicial inheritance of previously-acquired experience.—*Popular Science Monthly.*

PRACTICAL TEACHING.

BY S. S. BOYNTON.

Those who would make innovations on the old-fashioned methods of teaching must expect to become the mark for obloquy by those who cling to old-time fashions and antiquated modes.

This is shown by the treatment our ablest teachers and most successful educators constantly receive from the drones of the profession.

In some of our interior counties the State Board of Examination are blamed for giving such practical common-sense questions at the quarterly examinations. If a question is asked that is not in the ordinary text-books, some of the applicants always grumble; and if one is asked demanding common sense instead of book-knowledge to answer, a part of the teachers invariably denounce it as an unheard of insult to the profession.

The live teachers, those who would give the pupils a love of reading or study at the expense of some pages less of grammar or

history, are checked by the outcry from parents and trustees.

The idea seems to be that pupils must study books, not things, must be able to recite tables, not to do practical work.

The idea of taking weights and measures into the schoolroom is looked upon with disfavor by too many who have a voice in the management of our schools.

A teacher who would take his class out doors, and teach them to measure wood and lumber, would be laughed at in many school-districts.

Yet surely this plan of practical teaching is the true one, and we need have no fears but what we are in the right. We have but to glance at history a moment to see that nearly all plans for improvement have met with strenuous opposition from those who were to receive the greatest benefit. Robert Fulton was thought a crazy fool. Morse could gain no aid or help for many years to develope the use of the telegraph. Dr. Morton, when he discovered ether, was almost hooted out of the community by his fellow doctors. Poor Charles Goodyear was deemed fit for the asylum ere he brought india-rubber into a condition that it could be used. Hargreaves' spinning-jenny was pulled to pieces by a Blackburn mob. Richard Arkwright was denounced as the enemy of the working class. Dr. Harvey's tract announcing his discovery of the manner in which the blood circulated through the body gained him so much abuse that he lost all his practice. Jenner's idea of vaccination was denounced from the pulpit as diabolical. Sir Charles Bell's tract on the nervous system met with both ridicule and opposition, and so has it been with every class and profession who have attempted improvements for the benefit of the general community.

In our schools we need more practical work and less book-knowledge.

We need more knowledge of every-day affairs, and less discipline of mind.

Pupils should be taught weights and measures by use, not by repetition. They should be given examples similar to those they will work as soon as they leave school. There is no exaggeration in saying not one pupil in fifty can step into a drug store and weigh out a spoonful of quinine, or go into a bank and weigh correctly, naming, of course, the number of ounces, pennyweights, and grains in a handful of gold dust.

The abstruse, seldom-used, impractical parts of our schoolbooks too often receive as much time and drill as the essential, the needful sections do.

Teachers in many instances are forced to this by parents, and as bread and butter depend upon meeting the popular wish, the old plan is followed.

At our examinations the boy who can recite the most rules of grammar, name the greatest number of facts in history, or locate the most towns and rivers in geography, is reckoned the best scholar.

Our teaching is done too generally by rote; our education too often consists in cramming the memory with thousands of useless things, which the pupils forget as soon as possible.

Pupils on leaving the school are rarely called upon to declaim fine passages, but to read intelligibly common books and newspapers. They are not required to analyse sentences and parse words, but to write plain sensible letters to friends on business or for the press.

Not one in ten is asked to spell aloud, but all are obliged to write down words that need to be correctly spelled.

So with every study in our common schools, except, perhaps, drawing and penmanship.

Those things which occupy the active work of life, the practical things which people employ every day, are the ones to be thoroughly taught in the schoolroom. This should be done even at the expense

of some studies deemed all important by fossil teachers of the present age.

Above all things send forth the boys and girls with a love of study and reading.

One who has acquired the habit of reading standard works, and who has a love for study itself, has the best possible guarantee of becoming a truly educated man.

Let us work together to attain the truest ends of school education, fighting error and prejudice wherever found, be it among the patrons of the schools or within our own ranks.

Let us give the children something definite, something tangible; give them an education which they can use as a mechanic does his tools, assisting and aiding in the labor to be performed.

SOME REQUISITES TO SUCCESS IN TEACHING.

BY O. S. INGHAM.

The conditions on which is based the highest success in teaching are, in my opinion, determined by the possession, on the part of the teacher, of certain peculiar, important qualifications. First, among these qualifications, is a genuine love for children; the ability to bring one's self into close, active, confidential sympathy with them; to understand the characteristics, the workings of their minds; the difficulties that obstruct their intellectual progress; the ability to lend the right kind of assistance, at the right time, and in the right manner; the ability, in short, to understand the mechanism and capacity of that miracle of created things—the human mind,—and to strike, with inspired fingers, from its heaven-attuned strings those strains that shall swell divinely on through life, and reverberate, in angelic harmony, through the halls of eternity!

Earnestness, downright earnestness, is

another requisite to success. As is the teacher, so will be the school. If the teacher is earnest, enthusiastic, emphatic in his manner, if his heart, soul, mind, might, and strength are in his work, the flash of his eye, the thrill of the tones of his voice, the magnetism of his manner, will excite the interest, arouse the energy, and secure the rapid, triumphant progress of the pupil.

Another important requisite to success, in my estimation, is the adaptation of the language of instruction to the pupil's capacity. In this many of our best educated teachers signally fail,—the ability to employ language so simple, clear, and untechnical as to be fully comprehended by the child. Too often the language of the explanation or illustration is as difficult of comprehension by the pupil as the principle under consideration. Let the language, then, be simple, plain, correct, and to be assured that an explanation, illustration or demonstration is understood—require the pupil to repeat it in his own language.

Another requisite to success is the kind and courteous treatment of pupils. The teacher who believes that the pupil has no rights which he is bound to respect, that he is not keenly sensitive to just or unjust treatment, that the teacher demeans himself and compromises his dignity by familiar, kindly, courteous intercourse with his pupils; that, in short, children have not hearts and souls, to be enkindled to prompt, loving, artless response to kind, loving treatment—such teacher commits a fatal mistake in judgment.

Order is such a generally admitted requisite to success, that its mention, even, may seem superfluous. Order should characterize all the exercises of the schoolroom. Books, furniture, apparatus—everything should have its place, and, except when in actual use, should occupy that place. Nothing more conduces to the order and quiet of the schoolroom than the

pupil's love and respect for his teacher, and interest in his studies.

A constant, present, controlling sense of the magnitude, importance, and difficulty of his work will greatly enhance the value of the teacher's labor, and contribute largely to his highest success. Let him ever remember that his teaching, his example, his influence, will, perhaps, determine the pupil's character through life, and shape his destiny for eternity.

CURIOSITIES OF THE VOICE.

Some years ago a delightfully interesting book was written by Sir Charles Bell on "The Human Hand." There might be fully as interesting a work written on the mechanism of the human voice, in which would be equally demonstrated the power, wisdom, and goodness of the Creator. We offer a few observations on the subject. Until recently there were mysteries difficult to explain concerning the wonderful inflections in the voice. Now, it is thoroughly understood how words are produced, and how the throat is able to send forth a wide variety of charming notes in singing. We begin by mentioning that Dr. Mandl has devoted himself to the study of the organs of speech, and from his work on "The Larynx" we give some interesting particulars. Investigators have long been occupied with researches; but, until they had seen the larynx of a living being, one thing only was proved—that the voice was formed in the glottis. For fifty years of this century they were trying by mirrors and other appliances to examine the interior of this organ, but without results. Suddenly an inspiration came into the head of a celebrated singer, whose name awakens charming remembrances among old amateurs. This was M. Manuel Garcia. Ignorant of all the trouble which surgeons had taken in order to observe the movements of the throat in the

act of singing, he conceived the idea of looking at himself. By the help of two mirrors, the one reflecting the image on to the other, he saw the whole of his larynx depicted. In ecstasy before the glass, he determined to pursue the accidental discovery which had been so long dreamed of. But the autumn had set in, and the sun's rays, which were necessary to success, did not lend their aid. London with its fogs forced him to try artificial light, the results of which were unsuccessful, and therefore he could only profit by fine days; yet he soon recognized how isolated sounds were produced. In 1855 the Royal Society received some communications from him on these curious studies.

The subject was at once taken up with great activity, especially in Vienna, where success was far from equaling the hopes of the doctors. The caprices of solar light and the defects of artificial threw them into a state of despair. By all means they must improve their mirrors. Czermak, the Professor of Physiology at Pesth, taking an example from the instrument used in examining the eye, the ophthalmoscope, had recourse to a concave mirror which concentrated the light. From this time there was no difficulty but to perfect the lenses. Czermak, having acquired great skill in the use of his laryngoscope, visited the principal cities of Germany, where his demonstrations deeply interested surgeons and physiologists. He was warmly received in Paris in 1860, where he showed not only the whole length of his larynx, but also the interior of the trachea or wind-pipe as far as its bifurcation; a spectacle truly astonishing to those who witness it for the first time. It is not possible to examine the organ of the voice with the same facility in all; a man must have had some experience before he can do it.

A slight sketch of this organ will perhaps make the subject clearer. From the breast there rises to the middle of the neck

the passage for the air between the lungs and the mouth; at one end it is divided into numerous branches, called the bronchial tubes; at the upper end, like the capital of a column, is seen the larynx, resembling an angular box; strong cartilages make it very resistent; and the interior is lined with a mucous membrane forming folds, named the vocal lips. These separate, lengthen, or shorten, in the formation of various sounds. The largest of the four cartilages rises in an annular form, and protects the whole structure. It is but slightly shown in the neck of the female, but strongly marked in the man, and is popularly called Adam's apple. Like everything else, the larynx presents individual differences; a fine development is an indication of a powerful voice; as the child grows up there is a sudden alteration and increase of size; but it always remains smaller in the woman than in the man; the angles are less sharp, the muscles weaker, the cartilages thinner and more supple, which accounts for the sharp, treble notes in their voices.

Singing demands a different kind of activity in the organs from speaking. In society, where education requires a submission to rule, singing belongs to the domain of art; but, in a primitive state, all nations have their songs. Musical rhythm drives away weariness, lessens fatigue, detaches the mind from the painful realities of life, and braces up the courage to meet danger. Soldiers march to their war-songs; the laborer rests, listening to a joyous carol. In the solitary chamber the needle-woman accompanies her work with some love-ditty; and in divine worship the heart is raised above earthly things by the solemn chant.

A strong physical constitution, and a perfect regularity in the functions of the organs used in singing, are inappreciable advantages. They should be capable of rendering an inspiration short and easy,

the expiration slow and prolonged ; there is a struggle between retaining and releasing the air, and with the well-endowed *artiste* the larynx preserves its position, notwithstanding the great variety of sounds which it emits. But the evolutions of the parts are multiplied, the vocal lips vibrate, and the configuration of the cavity modifies the sounds which are formed in the glottis, and determine the tone of the voice. The most energetic efforts of the will cannot change this tone in any sensible manner. Professors injure their pupils by prescribing the position of the mouth, from which perhaps they themselves derive an advantage.

It is interesting to watch the play of the organs by the help of the laryngoscope, and see the changes which succeed one another in the low and high notes. At the moment when the sound issues, the glottis is exactly closed ; then the orifice becomes a very long figure, pointed at the two extremities. As the sound rises, the vocal lips approach each other, and seem to divide the orifice into two parts ; then as the highest notes are sounded, there is but a slit the width of a line. The vocal lips change like the glottis ; they stretch out, harden, thicken, and vibrate more as the voice rises. Women, who have a smaller larynx, and shorter vocal lips, can sing higher notes than men, with a tone less powerful, but sweeter, more uniform, and melodious.

The ordinary limits of the voice comprehend about two octaves of the musical scale : it can easily be increased to two and a half ; but some reach the very exceptional range of three, and three and a half. Thus, at the commencement of this century, Catalani astonished every one who heard her, as a sort of prodigy. Suppleness and intensity may be acquired by practice, as has been proved in the case of many singers : the voice of Marie Garcia was harsh, but it became at last the delic-

ious one of Madame Malibran. In general, the natural gift is manifested without culture ; the child endowed with this great charm warbles like a bird for amusement ; a lover of art passes by, listens with surprise, and promises glory and fortune to the rival of the lark. Thus the famous Rubini won his triumphs. Occasionally the singer has in a moment lost all power, and an enchanting voice will disappear never to return ; such a misfortune befell Cornelia Falcon.

Those who have watched the formation of vowels and consonants, can describe very precisely the positions which the lips, tongue, and palate, take in articulation. Yet almost identical sounds can be produced with different positions. As we all know, the teeth are a great help to pronunciation, but a person who has lost all his teeth can modify the play of the lips and tongue and express himself intelligibly. Actors imitate the voice of public characters so as to make illusion complete. The ventriloquist can make his voice issue as if from a cavern. When misfortune has deprived a man of the whole or part of his tongue, he can still hold a conversation, though the sounds are never particularly agreeable. All this shows that there is nothing absolute in the actions which form words, though in general the same organs play similar parts. Those who were born deaf have ceased to be dumb by interpreting the movements of the mouth with wonderful certainty ; they guess the words of the speaker instead of hearing them, and so learn to speak by imitation, their speaking, however, being seldom well modulated. There are now several institutions where the poor creatures who have been deprived of one of their senses can acquire a means of communicating with their companions without the tedious intervention of writing. The master indicates to the child how he must open his mouth, place his tongue and lips ; he then draws

the pupil's hand over his own larynx, so that he may feel the movement. Those who, like the writer, have seen this reading from the lips, will be struck with the surprising delicacy of the impressions made on the eye which has been thus cultivated.

In comparison with the human voice, that of animals seems poor indeed. The barking of the dog, the mewing of the cat, the bleating of sheep, cannot be called language, in the proper sense. Yet the larynx of these creatures is on the same plan as that of man. Among monkeys the resemblance is perfect. To all appearance the impossibility of speaking is due to the formation of the lips and tongue. In 1715 Leibnitz announced to the French Academy that he had met with a common peasant's dog that could repeat thirty words after its master. In spite of such an authority, we must always say when we most admire the intelligence of this faithful companion, "He only wants words." So well endowed with memory, affection, and intelligence, he can only express his joy by sharp, short expirations of air through the glottis. Howling is a prolonged note in the pharynx, excited by deep grief or pain. Yet they in common with many other animals can communicate with each other in a marvelous manner when they wish to organize an expedition. A dead bullock was lying in a waste far from all habitations, when a solitary dog, attracted by the smell, came and fed upon it; immediately he returned to the village and called together his acquaintances. In less than an hour the bones were picked clean by the troop.

Opportunities for studying the language of wild animals are rare: they fly from man, and when in captivity they become almost silent, only uttering a few cries or murmurs. Travelers have sometimes been able to watch the graceful movements of the smaller African apes. Living in the branches of trees, they descend with great

prudence. An old male, who is the chief, climbs to the top and looks all around; if satisfied, he utters gutteral sounds to tranquilize his band; but, if he perceives danger, there is a special cry, an advertisement which does not deceive, and immediately they all disperse. On one occasion a naturalist watched a solitary monkey as he discovered an orange-tree laden with fruit: Without returning he uttered short cries; his companions understood the signal, and in a moment they were collected under the tree, only too happy to share its beautiful fruit. Some kinds possess a curious appendage, a sort of aerial pouch, which opens into the interior of the larynx and makes a tremendous sound. These howling apes, also called Stentors, inhabit the deepest forests of the New World; and their cries, according to Humboldt, may be heard at the distance of one or two miles.

If it be ever possible to observe the play of the larynx of animals during the emission of sounds, the subject will be a very curious one. The difficulty seems almost insurmountable, as their good-will must be enlisted; yet M. Mandl, full of confidence in his use of the laryngoscope, does not despair. After man, among animated Nature, the birds occupy the highest rank in Nature's concerts; they make the woods, the gardens, and the fields resound with their warbles. Cuvier discovered the exact place from which their notes issue. They possess a double larynx, the one creating the sounds, the other resounding them; naturalists call the apparatus a drum. Thus two lips form the vocal cords, which are stretched or relaxed by a very complicated action of the muscles. This accounts for the immense variety of sounds among birds, replying to the diversity in the structure of the larynx.

The greater number of small birds have cries of joy or fear, appeals for help, cries of war. All these explosions of voice borrow the sounds of vowels and conso-

nants, and show how easy and natural is articulation among them. Those species which are distinguished as song-birds have a very complicated vocal apparatus. For the quality of tone, power, brilliancy, and sweetness, the nightingale stands unrivaled, yet it does not acquire this talent without long practice, the young ones being generally mediocre. The parrots which live in large numbers under the brightest suns, have a love for chattering which captivity does not lessen. Attentive to every voice and noise, they imitate them with extraordinary facility; and the phenomenon of their articulating words is still unexplained. It is supposed that there is a peculiar activity in the upper larynx. As a rule, they attach no meaning to what they say; but there are exceptions. When very intelligent and well instructed, these birds—such as Mr. Truefitt's late parrot, an account of which appeared in this *Journal* in 1874—can give a suitable answer to certain questions.

Our notes on this interesting study come to a close. Man is well served by his voice; words are the necessity of everyday life; singing is the pleasure and recreation, whether the performers are human beings or birds—*Chambers's Journal*.

WHAT SHALL WE TEACH?

BY A. W. OLIVER.

Under the moulding influence of our public school teachers seven millions of our children spend six hours a day, five days in the week. It requires no prophet's vision to show us that, within thirty years, the destinies of our loved Republic will be shaped by those, whose mental and moral natures are now being shaped by our great army of public instructors. "The boy is father to the man," and, in a truer sense than is generally understood, the teacher is father to the boy. His rela-

tions to his pupils, covering so large a portion of the child's life, and enforced by authority, enable him to have the impress of his own head and heart upon their plastic minds, to an extent that is seldom realized. These truths being self-evident, the two most vital questions for our solution, are, what shall we teach in our public schools? and, who shall be selected to train our boys and girls? Before these two great problems all other state and national issues are of little weight; for upon their solution hang national honor and disgrace.

What elements of strength and prosperity do we, as a nation most sadly need to-day? Is it that the course of study in our public schools shall embrace new sciences, and occupy a larger portion of the pupil's life? Shall we continue to sharpen the mere intellectual faculties of our boys, that when they leave school, they may be able to heap up riches, and wield a mighty influence among their fellows? Wealth and power, if unballasted by moral principle, are elements of national weakness and decay. The insane strife for these things, is to-day sapping the strength, and undermining the very pillars of our government, threatening to stamp out the spirit of our free institutions under the iron heel of anarchy and despotism. When the sacred office of legislator is prostituted to the unholy traffic in bribes; when grey-headed senators, supposed to represent the wisdom and the honesty of our nation, are convicted of conniving at whiskey frauds; when members of Congress take gifts from great railway monopolies, that the public lands, the rightful inheritance of the poor man's children, may be given to a few princely land-owners, have we not reason to fear that we are upon the very verge of moral bankruptcy? The sterling integrity of our ancestors, though it furnishes the solid granite of our foundation, will not save from ruin the fair fabric that their chil-

dren have erected. Moral capital, the backbone and the vitality of a nation, is at a fearful discount among us. The shouts of self-laudation at the completion of our first century of national life, had not yet died away, when official corruption from Oregon to Florida, held the nation for months in painful suspense as to who was rightful president; while honest men, with pale faces and bated breath, looked down into the chasm that yearned at our feet.

The real strength of a nation lies not in its vast fields of waving grain, its rich plantations of snowy cotton, or its glittering mines of gold and silver. Our gleaming bayonets and thunder-voiced cannon, instead of being the bulwarks of the people, can, if controlled by corrupt leaders, at any moment be turned into engines of swift national destruction. Those grand empires of the Mediterranean, though rich in all the material elements of a nation's greatness, their orators and scholars even now the admiration of the world, collapsed through sheer moral rottenness. Happy indeed shall we be if we learn, before it is too late, the sad lesson of their ruin.

If we would have, to govern us, men whom we can trust, we must teach our boys to fear lying and stealing more than they fear death. If we would secure honesty in our state and national legislatures, and in our courts of justice, we must earnestly teach it in our public schools. Our youth must be taught that sterling integrity is far above the most sparkling genius; the culture of the heart must be regarded as more precious than the culture of the head. Let us make our children *believe* that the boy or girl, who develops a true and noble character, makes the grandest success of life, and "shall shine as the stars forever." Let us teach our boys that the tradesman who puts his choicest apples upon the top of the box, advertises himself as a liar; that the man who "salts" mining claims, or knowingly takes money for "wild-cat"

stock, is a mean swindler; that the man who asks another to "drink" with him, for the purpose of influencing his vote, is guilty of the basest bribery, and is an enemy to good government.

In the development of correct moral principles in the child's heart, the study of physiology and hygiene furnishes an important aid. Crimes against society are frequently the mature fruit of seeds planted in the child's body, and germinated by evil thoughts. How many a teacher has watched with aching heart the change stealing over the brow of some noble boy or girl, as the frank, innocent look of childhood was being trodden out by the marching in of guilty thoughts! How powerless has he felt himself to arrest this soul-destroying process! Violations of God's laws as written in the body, demoralize the natural instincts of the child; these react upon his moral nature, warping it from the path of rectitude, and thus paving the way to vicious and criminal practices.

What society needs to-day is, not more arithmetic or grammar; it needs a fresh infusion of honesty. We are making the radical mistake by putting mental before moral culture, the head before the heart. Yet from the heart, and not from the intellect spring the issues of national, as well as individual, life and death. As chaff before the whirlwind, so are scattered our noblest resolutions, our grandest theories, before the breath of our appetites and our passions. It is only when these are chained down by strong, intelligent, moral principle within him, that any man is safe.

Thousands of children attend our public schools, whose home influences are constantly warping their moral natures to vice and crime. From this class, a few years later our prisons are replenished. When shall we learn wisdom? No one can doubt that there was a time in the life of the most hardened criminal, when that crime that now shocks the moral sense of

the nation, and calls for the avenging rod of justice, was the smallest seed in the heart of the infant boy. Had proper moral training then prevented its germination, how much expense would have been saved the state ; how much sorrow, the widow, and orphan children ; and how much shame the family of him whom outraged justice condemned to swing from the gallows. The perjurors, the thieves, the robbers, the murderers, who will harass our nation a few years hence, are, many of them, to-day in our public schools and under our training. The weakest argument in favor of thorough moral training in our schools, is that such a course, vigorously and persistently carried out, would save from criminal prosecutions sufficient money to employ at liberal salaries, first-class teachers enough to train all the youth of our land.

The history of nations fallen into ruins in the very zenith of their intellectual splendor, disproves the oft-repeated assertion that the safety of a nation lies in the mental culture of its people. He who rules among the armies of the earth, has wisely ordered that even barbarians shall stamp out the traces of the most refined civilization, if it be not founded upon stolid principles. When education shall mean the natural and beautiful unfolding of the child's physical, moral and mental natures, so as to fit it for its high destinies in time and in eternity, then, and not till then, will men become a law unto themselves, and the flood-gates of vice and crime be closed in our land.

Let physiology, hygiene and moral science, simplified to meet the capacity of the dullest mind, meet the child upon his entrance into our schools, and form a prominent part of the training through the entire course. Let us teach our boys and girls to shun base associates, to hate bad books, to love virtue. Let us teach them honesty, truthfulness, industry, economy, humility, modesty, temperance, loyalty and

courage,—the first principles of sterling character, and the elements of individual and national prosperity. These grand social and moral sciences substituted for much of our present mental "cramming," will insure better intellectual culture ; and the nation would soon feel the thrill of new life throughout its mighty arteries.

CONCERNING "CRAMMING."

BY AURELIA GRIFFITH.

In the excellent editorial, "Cramming vs. Teaching," published last month, the writer asks for a remedy. Perhaps no one remedy will entirely answer. There are so many ramifications to the subject, and each branch may require specific treatment. But, in my opinion, if any one remedy will reach and alleviate, if not cure the evil, it will be a less frequent change of superintendents. Each superintendent has individual ideas to be enforced, and one system is scarcely inaugurated until another is prepared. For this reason I usually bring what little influence I possess to support the re-election of a superintendent, even though I may not approve entirely of his rule.

But, full of trust, I welcome the practical common sense of the author of "High School Studies in Grammar Schools." He evidently perceives the unnatural method of cultivating the mind, and will seek a practical remedy. Meanwhile, I would suggest that our primary grades, at least, are not expected "to raise too many crops simultaneously from the same little mental garden patch," nor be asked to eat enough in one day to last a week. Many of our children cannot attend longer than to complete the fifth grade. Then let the course of study be exceedingly thorough in laying, not an ornamental, not even an extended, but a truly substantial foundation. If a child starts in life a good reader,

writer, speller, and well drilled in the ordinary business principles of arithmetic, he can succeed, if he possesses the necessary perseverance. If, besides this foundation, he can be taught that it is only a foundation, that he alone is responsible for the beauty and completion of his life, and a taste for mental food and moral beauty is developed, then a true education has begun that will never end.

Not that I would ignore grammar and geography in the primary grades, but I would simplify and make them practical. In grammar, instead of dwelling upon definitions, I would require more frequent practice in composition, commencing with sentences in the lowest grade, and not consider a child prepared for the grammar school until capable of writing a respectable letter. In geography I would have the instruction concise—a general outline taught from the globe. Teach the grand, natural, and political divisions; locate our own and other principal governments; point out the means and direction of trade and travel; but never cause mental indigestion by compelling pupils to memorize every little town in their own State or every street in their own city. While there are books of reference and directories, it is a worse than waste of time and strength, and a really active, strong, *reasoning* brain will not long bear such a burden. *Wise nature relieves itself by forgetting.*

GREEK LITERATURE.

THE GREEKS AND THEIR LANGUAGE.

A brilliant, acute, adventurous race, the Achaians, or Hellenes, appear, in the opening of European history, on the shores of the Ægean and the Eastern Mediterranean. Their complexion was fair, their stature moderate, their motions active and refined. They were evidently a branch of the Indo-Germanic family. They had no resemblance to the dusky and tropical Se-

mitic race. They were more like the modern Englishman or German. Savages at first, they lived in caves, like those hewn in the Acropolis, or slept, like the Saxons, in the forests. They were apparently thieves, robbers, pirates; and no one, in the earliest ages, went without arms. But in a few centuries softer manners came in. The countrymen of Agamemnon and Ulysses were transformed into quiet citizens; commerce, manufactures, industry, enterprise, flourished throughout all Greece. But the chief trait of the Hellenic race was a ceaseless mental activity. The passion of the Greeks for letters seemed never to wane. They invented or perfected epic and lyric poetry, the drama, history, oratory, mental science, criticism, natural history, mental and political philosophy, mathematics, science; they rose to the highest excellence in music, painting, sculpture, architecture. The chief seats of this mental progress were first the Ionian cities, on the Asiatic coast; then Sparta, the Greek islands, and the Italian and Sicilian capitals; next Athens, then Alexandria, and at last Greek intellect lingered out its long decline for a thousand years amidst the decaying splendors of Constantinople.

The language spoken by the Greeks was a branch of the Aryan, not far removed from the Sanskrit. It still retained the terminations in *mi*. The aorist tenses, the middle voice, and various inflections bring it closer to its Asiatic source than the Latin. It was divided into several dialects—Æolic, Doric, Ionic, Attic. Under its early poets, it rose almost at once to a high perfection. It was melodious, clear, abundant, rich in the means of expressing every thought and feeling. The fertile genius of the Greeks soon learned to mould their copious dialects into the rarest and sweetest combinations of sound. They studied poetry and versification in early youth under eminent teachers. Their prose was as harmonious

and labored as their verse. Literature was a separate profession ; the author learned his art by incessant labor, and Plato polished his style, it is said, when he was more than eighty years old. Intense study, joined to rare mental gifts, was the source of the excellence of the Greeks in every art. They were republicans, too, and cherished an extraordinary independence and originality of thought. Refinement and genius sprung up together in the early homes of progress. In morals the Greeks were less commendable ; in many traits of character they remained semi-barbarous. The novelty of the world still clung to them !

GREEK POETRY.—HOMER.

ABOUT 850 B. C.

Homer was the first of the Greek authors, and the founder of the European system of literature. No one precedes him, no one has since equaled him ; and the brilliant, tender, or heroic figures he has painted on the Trojan plains lives with increasing splendor as years glide on forever. Not one of them is lost or forgotten. And Diomed, Eneas, Ajax, Ulysses, Agamemnon, (king of men) Hector, Achilles, Helen, and Andromache touch the fancy of the nineteenth century with a novel interest that seems never to fade. Dante, Shakspeare, and Milton have no stronger hold upon the affections of the people than their Greek master, and Homer is still read for the interest of his story and the magnificence of his fancy in every corner of the world he has adorned, but of which he could have known so little.

The period in which he lived lies in the dawn of European history. It must at least have preceded by a century the year 776 b. c., and is lost in the mythical age of Grecian kings and heroes. No one can tell the place where he was born, whether he was a European or Asiatic Greek, or whether, in fact, a Homer ever lived at all. Wolf, in his famous *Prolegomena*, first made popular the startling theory that the

poet whom men had so long worshiped and imitated was no more a real character than Romulus or Theseus, and that the Homeric poems had been composed at different periods by various writers whose names were forever lost. His theory is at least probable. But modern critics still cling to the real existence of a Homer, and the *Iliad* and the *Odyssey* bear everywhere the traces of the labors of a single mind. They are so admirable that it is impossible to believe that they are only a combination of irregular ballads and the work of various writers. So brilliant a piece of mosaic would not have escaped the scrutiny of ancient criticism, and must apparently have been recorded in history. We assume, therefore, that Homer lived, and that some of the legends told of his early life are true ; that he was a poor bard who wandered from town to town chanting his ballads for money ; that he was blind in his old age ; that he was a native of Ionia, and lived in some prosperous Greek city on the shore, and perhaps left descendants in Chios.

In his period the Greeks of Ionia were not altogether unlike the English of the Elizabethan age, and the influences that formed Shakspeare were not unknown to the land of Homer. It was a time of colonization, excitement, adventure, mental and moral strength. The cities of Asia Minor were the centers of a great trade that had sprung up with Egypt, the coasts of Syria, and probably the barbarous shores of Italy, and the still more savage Scythia. The civilized world was a narrow region bounding the eastern limit of the Mediterranean Sea. But the era of navigation was just begun, and Phoenician fleets and the ships of Miletus and Chalcis were already exploring the new world of the West and the North. The manners of the Greeks were probably rude, harsh, yet softened by a rising passion for mental culture. War was man's common occupation, yet in the

midst of its horrors some traits of humanity begin to appear. Homer chanted his ballads to a people who felt the savage passions that glowed in Agamemnon or Achilles, but who were not insensible to the softer graces of Hector and Ulysses. To his adventurous, intellectual, uncultivated countrymen the poet was the Shakspeare of his time, and filled the Greek fancy with clear conceptions of Olympian gods, heroic men, and the fierce passages of the battle-field, of the councils of the deities, and a dim glimpse of a future life.

His poems, it is supposed, were not written, but repeated and preserved orally. A race of declaimers, who boasted a descent from the author, and who were called Homerids, lived in the island of Chios. They retained in their memory all the works of Homer, and repeated them before assemblies of their countrymen. His two chief poems, the Iliad and the Odyssey, are composed with great labor; the verse is unequaled in correctness and grandeur, the story seldom falters. The Iliad recites an episode in the seige of Troy, the causes, the results, of the wrath of Achilles. It is the saddest of human stories. Achilles, himself doomed to an early death, kills Hector, the Trojan hero, and drags him at his chariot-wheels before the walls of Troy. Hector's father, mother, wife, friends, behold his fate in grief for which the poet alone could find a just expression. Homer is never weary of lamenting over the sorrows of mankind. The Odyssey, supposed to be the work of his old age, might well have amused and employed the leisure of a famous bard: It follows the wandering Ulysses through a succession of wonderful adventures. He explores the new world of the West. He finds it filled with giants, who feast on men, cyclops with one eye, sirens, sorcerers, and the spirits of the dead. He visits the infernal world, and vainly seeks to embrace his mother's shade. These poems, composed on the shore of

Asia Minor, in the dawn of the progress of the human race, are necessarily barbarous and coarse in morals, mournful and hopeless in their aim; but they became almost at once the sacred books of Greece. They were chanted in every Greek assembly, studied in every school; they formed the literary taste and the moral tendencies of the Greek people, and guided them to a kind of political unity.

The Iliad and the Odyssey were first collected, revised, and published at Athens in the period of Pisistratus (596 B.C.) As the nation advanced in power and opulence, and Greek intelligence spread over Asia, Italy, Africa, and even to distant Marseilles, the two great national poems were more than ever admired. Generations of scholars studied and commented upon them. They were edited anew by the poet Antimachus and by the philosopher Aristotle. Their magnificent versification became the foundation of the poetry of Greece. Tyrtæus, Pindar, and Aristophanes were taught melody and taste in the school of the Ionic bard. The characters and tales of Homer were renewed in many of the finest works of the tragic poets. At Alexandria a school of critics arose whose lives were passed in commenting upon his writings. It was the custom of these enthusiasts to attribute to their favorite author all knowledge, and even all science; he was thought to have possessed unlimited learning; he was a master teacher in morals, refinement, taste. He was scarcely supposed to be fallible even in geography; and Strabo defends Homer against all hostile criticism in the enlightened age of Cæsar. Besides the Iliad and Odyssey, many other poems were ascribed to him, among them the Homeric Hymns and the Battle of the Frogs and Mice; but these are now allowed to be later productions.

PLAIN TALKS—PRIMARY TEACHING.

BY S. P. GRAY, M.S.

I not only desire all who are engaged as teachers, but also every mother, to draw near while I tell what I know about children. It has been written again and again, that the mother is the child's first teacher ; that home training is more potent for good or evil than that at school ; and, finally, that the mother moulds the future destiny of the child, even before it has reached the school-going age. In view of these facts, if facts they be, volumes have been written on *how* children should be taught, *what* they should be taught, and the proper course to be pursued at home. Now I do not intend to enlarge on that which is already too exhaustive, but instead, will tell you what you should not teach, if you wish your children to grow up to bless you. When I say *teach*, I mean in its broadest sense ; for we often say and do things which leave our minds at once, but make life-long impressions upon our eager little observers. Never tell any improbable or mysterious stories in their hearing. This includes "ghost stories," and "witch stories," "geni stories," and "fairy stories." Now I was so unfortunate as to be brought up in an atmosphere charged with such things, and must confess that to this day I cannot pass a graveyard at night without a shudder, although I despise such weakness, and try to overcome it at every opportunity. Never say to a child who has never been to school, "The teacher will cut your ears off," or anything of a like nature that will tend to give a child a wrong impression. A case came under my observation once that will illustrate the evil arising from such thoughtless utterances.

In my early teaching I used to be a genuine abedarian, teaching the alphabet from A to Z before making a single combination.

One morning a new pupil made her appearance to be initiated into the mystic rites of the English alphabet. I called her to my side, as was my custom, and after asking a few introductory questions proceeded to open the "old Elementary" and my knife at the same time, when to my astonishment the child actually fainted away. By interrogating other members of the family I learned that her mother had warned her at parting to be a good girl, or I would cut her ears off. Her fright was so great that, although she attended regularly for several months, she never saw me draw out that "horrid knife" without giving a perceptible start. And I believe the constant fear with which she regarded me impeded her progress during the entire term. I know a lady now, who cannot be induced to enter a dark room under any circumstances. She says her mother, to keep her from mischief, or frequently to see her scamper across the room, would say, "The bug bears will catch you !" and the "bug bears" have followed her ever since, and will continue to do so as long as she lives. The first teacher to whom I ever attended school, used to punish us by shutting us in a closet and telling us the witches would catch us. Now that worked badly in two ways : first, it made us afraid in places where there was nothing to fear ; second, by her constantly telling us the witches would catch us, while they never did, we lost confidence in her veracity. Never tell children what you know to be untrue, to answer a present purpose. Never address a child in a tone in which you would not wish any one to address you. Remember that the mind of the child is not a desert waste which lacks *all* the essentials of a fruitful soil, but like a fertile plain, it is rich in productive vitality, and you are intrusted with sowing the seed which shall spring up into eternal happiness or eternal misery. Even as an earth-worm may make an opening which will eventu-

ally change the course of a river, so may one little act of yours determine the destiny of an immortal soul. Guardians of the little ones, your responsibility is alike great, with yourself, with humanity, and with God !

Now, teachers, I want to especially address the following remarks to you, although I hope it will not prove devoid of interest to all who are interested in the great work of education, especially parents to whose interest it is to co-operate with teachers, instead of, as is too often the case, working in direct opposition. Although some of the following may apply equally well to our city schools, yet we feel compelled to give views which we deem best adapted to our

COMMON SCHOOLS.

Acquaint yourself, as much as possible, with the nature of your work before entering the school-room. "One of the most essential things is a right beginning, and the other is a right ending." To begin right is to gain the confidence of your school; and to end right is to retain their confidence.

The first can only be accomplished by a thorough knowledge of what you have to do, and a decisive way of doing it. Never fail to be at your school-room half an hour early on the first day of school. If you are not acquainted, you should introduce yourself to some one, who will be ready enough to render you any little service in the way of "fixing up" and introducing you to the other pupils. Have a copy of the last year's register on your desk, and as each one is introduced mark his name on the register; thus when school calls you will have all the names of the "old pupils re-entered" ready for roll-call at night, or noon, as you prefer. If there be any whom you have failed to enroll, simply request such person to hand in his name in full at close of school. If the child

whose name is not enrolled be unable to write request some pupil to write it for him.

Having thus easily adjusted a troublesome matter, generally accompanied with more or less confusion, you are prepared to proceed at once to your work.

The next step is to assign lessons for the day. This is done by taking your place before the school, and calling the attention of each class to a particular place in each text book you are expected to use.

The place assigned for the first lesson should be carefully selected, as one which will bring out the most important points used in the grading of the classes.

The scholars now being occupied order is secured, and you can call your first class. This should be the class from which the least preparation is required or expected, and generally falls on some of the primary classes. Suppose it is a class entirely unininitiated, even in the first principles of reading.

First, to avoid embarrassing the little ones, call upon all in the Third Reader to raise their hands; all in the Second Reader to do the same; then all in the First Reader.

Now little Mary and Johnny, who have not raised their hands, may safely be called out to their first recitation. It is very humiliating to a child to take the floor after a teacher has said, "All those who can neither read nor write, may come up here in front!" Such was the introductory remark I heard from more than one whose mission it was to give a child a correct idea of "the eternal fitness of all things."

The class now before you what shall you teach, and how shall you teach it?

Now right here you expect me to give you a model by which you must be guided. I shall do no such thing. Models are practically useless—worse than useless. What teachers want to know is: 1st. The true aim and object of the work in hand;

2d. How to accomplish the work in a systematic manner.

First, then, there is *physical education*, the end and aim of which is to produce health, both of body and mind; for on the condition of the body depend the powers of the mind. Therefore, the principal part of the first lesson—first lessons are the most impressive—may be profitably devoted to an examination of the children themselves. Whenever you make use of a familiar word, and are fully satisfied that each member of the class thoroughly understands its meaning and application, *write and print it* on the black-board. These lessons, together with calisthenic exercises, should be kept up for at least one month. I have seen entire classes within that time able to point out, on their own person, over fifty different organs, name them and their functions, and more wonderful than all write them out in a clear, legible hand! These topics may be changed as often as the teacher is satisfied on any one point, but I suggest that the human body be considered first, as affording the most familiar as well as the most useful illustrations. Then other familiar *animals* may be introduced, and finally the structure of plants and flowers in a similar manner.

Secondly, comes *intellectual education*, "based on a careful investigation of the laws which regulate the gradual progress of the mind from its earliest state of mere sensation till it reaches the power of dealing with the most abstract ideas." After the child has gleaned enough of facts from the *real* thing of life; he should be taught to look at the names as *names only*, or to see the terms he has been using in a particular sense, separated from that idea, ready to be used wherever he chooses to place them. After that has been done the child is prepared to enter upon the field of *abstraction*, and learn the sounds of our language and the names of the otherwise meaningless characters representing

those sounds. Before leaving this subject I wish to impress upon the minds of teachers to never be in a hurry to have a child able to read. If a child be taught to read before he be taught to understand, how can he be expected to read well? If he begin reading without a knowledge of words, that knowledge will never overtake the number of words which he will daily encounter. Otherwise, give the knowledge of the words first and then he will not have spent time in learning that which is of no use to him.

Never allow your class to be very near you when reciting. Many teachers complain that children recite so low that it is difficult to hear them. This is generally their own fault. They permit the little ones to recite from their knee. That is a bad practice and should never be tolerated for a single instant.

If persisted in for a single term, it is permanently injurious. Until the child can follow the words without assistance from any one, the blackboard and charts should be used exclusively.

Thirdly, we enter upon the most difficult field of all: the education of the child's *emotional nature*. In the accomplishment of this work, the teacher is often compelled to grope his way in darkness. The emotions of a child are so deeply hidden that what we intend shall produce a certain result, frequently produces the opposite. The broadest division of the feelings which can be made are, pleasure and pain.

When a child performs a mental act in accordance with a fixed law, and arrives at a correct result, the mental act has given him pleasure. If, on the other hand, he lacks a single link in the chain of reasoning, and the result obtained is wrong, he feels a mental pain. Now it is obvious that one or the other of these feelings will predominate, according as his mental solutions prove right or wrong. Further, it will be seen that the whole nature of the child

wholly depends upon whichever mood predominates. Thus we see how important it is that the mood which gives pleasure and makes the child agreeable and happy, be given the preponderance. This may be done by holding out every reasonable inducement for the right, and pointing out the ultimate miseries of the wrong; by never giving the child a task he cannot perform; by never asking a question he should not be expect-

ed to answer; by cultivating a love for the beautiful, and, finally, by teaching him to discriminate between things which will yield him pleasure and those which will eventually give him pain. I could multiply illustrations, but fear I have already taken up too much of your valuable space, and will leave a continuation of the subject as practical work for every energetic teacher.

EDITORIAL DEPARTMENT.

On the Present Exclusion of Text-Books.

THE present regulation of our State Board of Education, providing that certain subjects, such as Physiology, Physics, Natural History, etc., should be taught orally, (*i.e.*, without the use of text-books by the learner) we hold to be highly prejudicial to the mental growth of our youth.

A good text-book represents the thought and experience of the ablest teachers in a crystallized form.

The five thousand teachers of the Coast may safely and accurately be classified into three divisions: fifteen hundred good, fifteen hundred average, and two thousand indifferent and bad. Who will instruct to better advantage, the poor teacher or the good text-book? An inefficient teacher is dependent on the text-book, is insecure without it, needs it not only in her own hands, but in those of her pupils. Take it away from her, and her scholars are untaught; they are crammed with the answers to a list of questions; they learn no

principles. The process of teaching, then, such topics as Physics, Physiology, and Natural History is a mere farce,

A drill-sergeant would consider it absurd to train the recruit in the manual of arms without the bayonet; is it less ridiculous to do effective teaching in any branch of learning without a good text-book?

In ten thousand homes, even in this reading land, the only books are the school-books of the children. With some of the most valuable of these books excluded, these homes are bookless.

The present methods of teaching Physics is to require pupils to transcribe a synopsis of matter from the text-book. The cultured, efficient teacher is required to fill up this outline, and by brief lectures to give his pupils a clear conception of the topic under discussion. How many of our teachers are able to do this?

And how pernicious is the whole system? Teachers are expected to take the text-book, examine and prune, to condense, as it were, the mental food, and present it, all prepared, to the learner. The labor of

the teacher is substituted for that of the pupil.

The memory is cultivated, but the judgment is utterly neglected.

Children are not taught to discriminate between what is important and what is not.

Clearness of thought and accuracy of expression are impossible under a system which makes a teacher the text-book, and leaves the learner without recourse to any other authority.

Prof. A. L. Mann, a writer in the September number of the JOURNAL, strikes the key-note of reform in our present methods of instruction, when he says: "The great need of our age is concentration."

And here is the evil of the exclusion of text-books on important subjects from the hands of our school-children. It countenances diffuseness in the teacher, and vagueness in the minds and speech of the student.

We doubt if even in that ideal state where teachers are perfection text-books will be excluded from the hands of learners.

Technical Education.

We make the following selections from an interesting report in the Chicago Weekly of the meeting of the National Educational Association.:

"The meeting of the National Educational Association at Louisville, Kentucky, last week was a notable event in the history of that organization.

"The discussion that commanded the most absorbing interest was the lecture of President Runkle on 'The Russian system of art education as applied in the Massachusetts Institute of Technology.' The lecture was illustrated by an exhibition of shop work by some of the students in the forging and filing departments. The speaker gave a clear analysis of the pro-

cesses employed in the several departments of shop work, and explained the successive steps through which the students are led in these early stages of *manual education* to a degree of skill in the use of tools that is simply astonishing. From these statements and illustrations it was made to appear that in a course of shop practice embracing thirty lessons of four hours each, better results in production were secured than under the ordinary apprenticeship system in three years.

"Allusion was also made to an industrial or whittling school, composed of small boys taken from the street, and with little or no mental training, that has been in operation in the city of Boston during the past winter. A report, illustrated with several pages of photographic designs on wood, executed by the pupils, was circulated among the members. In reply to the question whether these methods of manual instruction are practicable in the common schools, President Runkle *unhesitatingly replied in the affirmative*. The results achieved in this 'Whittling School' demonstrated the practicability of such processes elsewhere and anywhere. As before stated, the *processes* are educational and the *ends* are educational, and no argument is needed to prove that the average American child can as well learn to use the hand and the eye in the production of tangible results as he can worry his brain over abstractions of grammar, or the dry formulæ of arithmetic and algebra.

THE LAST QUARTERLY EXAMINATION.

Candidates for certificates who fail at examination, are not ordinarily the safest critics of the questions they cannot answer. So the outcry from fifty-three counties, which resounds regularly every quarter, is no indication of lack of judgment or want of wisdom on the part of the State Board of Examination.

These hypercritical persons think that this time they have made a point on the Board, because the papers on Geography, History, and Natural History, are fairly open to adverse criticism. And unfortunately these critics are supported by that small portion of the press, which takes a sort of amateur interest in education.

Our friends forget (or perhaps they never knew) that these two or three papers are comparatively unimportant, that a cultured teacher could omit them entirely, and still obtain a fair percentage; that a larger proportion of teachers pass the California examinations than anywhere else in the world. If journalists and persons of intelligence will take the question periodically submitted to our would-be teachers, and compare them with questions used for similar purposes in the East, in England, or Germany, they will agree with us in classifying them as very elementary. If these examinations and the percentages obtained thereon, are the only indications of the culture of our common school teachers, then we have little reason to be proud of our schools.

We believe those who desire certificates to teach in our school may well be content with the examination questions usually given.

The less attention they attract to the subject the better. Comparisons with what is expected of teachers all the world over may not give an inquiring community too high an opinion of their merit.

THE names of T. H. Steel, J. C. Rudderock, Charles R. Beal, and Thomas H. Saxon, were omitted, last month, from our circular to the teachers of the Pacific Coast, as they were not heard from in time. They answered, however, as promptly as possible. We thank these gentlemen heartily for this additional proof of kindness, and make this explanation to show that their interest in educational progress,

and in the success of the JOURNAL, continues unabated. They will be pleased to learn, as will all other friends, that the response to the circular has been exceedingly satisfactory. Our gain in September is equal to our gain in June, and the teachers of the Coast may now congratulate themselves on having established an educational organ, loyal to their best interests, and devoted to the onward march of an enlightened system of education.

A GENEROUS response has been the result of our confidence in the teachers of this coast. In September we issued an edition of more than four thousand copies, sending them to every part of the three States of Oregon, Nevada, and California. A general reply has been the result. We thank our friends, both old and new. All old friends now, we hope, let us work together, never abating our zeal and energy, until every teacher, worthy to be so called, shall prove that he values education not merely for the dollars and cents it brings him monthly. We ask principals to see that their assistants take the JOURNAL, and we ask all to interest their neighbors.

THE tendency of many modern theories of instruction is to explain too much. Nowadays, the best teacher is supposed to be the one who has acquired the cud-chewing faculty to the utmost perfection; that is to say, he must be able to have on hand (or in mouth) his own cuds of knowledge well chewed, and half digested, all ready to put into the learner's mental stomach. Would it not be better for our pupils to masticate their own mental food?

SOME persons have an exceedingly graceful way of *saying nothing*. Is it not better to express, with fewer flowers of rhetoric, some living thought, that may germinate and bear fruit?

WE hail with satisfaction the announcement in the *New England Journal of Education* of the appearance, in October, of a new educational journal, to be devoted exclusively to primary teaching. Such a publication has long been needed by the teachers of the United States. The ability and high character of Mr. Bicknell, the manager of the *New England*, who will publish the new monthly, afford the surest guarantee that the journal will be well conducted, and a benefit to the profession. We wish the enterprise every success, and shall do all in our power to further its objects, and give it a fair circulation on this western slope.

WE call the attention of our readers to the special club rates in our advertising columns. The "special announcement," particularly, will interest every live teacher. Mr. Swett's History of the Public School System of California, is an invaluable work. No teacher or superintendent who desires to keep up with educational progress can afford to be without it. And our offer to send the book, alone worth \$2.50, with the JOURNAL (price \$2.00) for \$3.00, is an opportunity no live teacher will neglect to accept.

THE meeting of the State Teachers' Association, a full notice of which will be found in our advertising columns, should be well attended. The exercises will be of a nature to interest all teachers alike. Dr. Carr, President Le Conte, Mrs. Carr, and Prof. Allen, will deliver the general addresses, and an intellectual feast may be anticipated. We see that the County Institute of Sonoma elected ten delegates to the General Convention. Other counties will do well to follow the example.

WE call the attention of prominent educators to the advertisement, in our advertising pages, of a college for sale.

As long as Superintendents and Directors judge the ability and success of teachers by the number of pupils annually promoted, so long will children be crammed, and not educated. Unless those in authority find out some better mode of classification, we shall always find the froth of the profession on top, and the minds of the rising generations receive it.

SUPERINTENDENT PHILBROOK, of Boston, thinks that the schools would be more efficient if more men were employed. Yet in Boston 13 per cent. of the teachers are males. In San Francisco the proportion of males is but 8 per cent. We think an addition to the number of male teachers in this department would have a decidedly healthy effect on its general efficiency.

WE want articles on methods of teaching. Every day we receive letters asking us: "How shall we teach this subject or that? Can you not publish something which will show us precisely how to teach?" Articles on *primary instruction* are specially what we desire. Will not some of our friends favor us, and that right speedily?

As is the teacher so is the school; show us an intelligent, efficient Superintendent, and we will present you with an earnest, enthusiastic corps of teachers.

G E N E R A L N O T E S .

THE kindergarten system has been introduced into the government schools for girls in China.

THE University of London lately heard a petition of two hundred physicians against the granting of medical degrees to women.
—*N. E. Journal.*

EDUCATION in Japan is making most gratifying progress in all departments. The increase in the number of colleges

and schools of all grades during the last year was about 8,000. Nearly 100 English and American teachers are employed in the Empire, a number of whom formerly taught in California.

THE present efficient State Superintendent of Public Schools of Iowa, Hon. C. W. von Coelln, has been nominated for re-election. The West has no better man.

THE University of Moscow, Russia, recently celebrated the 122d anniversary of its foundation. The number of students during the past year was over 1,500. It has a library of nearly 175,000 volumes.

Of the public school domain of Texas, there are said to be 20,000,000 acres now in or to go into market for the next eight or ten years, at the minimum price of \$1.50 per acre, which will make a school fund of \$30,000,000.

One of the most important discoveries in modern astronomy has recently been made by Professor Hall, at Washington—the discovery of two satellites to the planet Mars. This fact will be considered as a new proof of the nebular hypothesis.

AMHERST COLLEGE may be considered very fortunate in becoming the possessor of the valuable scientific collection of Professor Shepard, having recently purchased them for the sum of \$40,000. These collections are said to be the largest ever formed by one individual, and the best now possessed by any college or university in this country or Europe.

The University of Berlin has, at the present time, 2,490 matriculated students, against 1,977 last year,—and a larger number than the university has had at any time during the sixty-six years of its existence. A large majority of the students are natives

of Prussia, but the other German States are also well represented, and forty-five are Americans.—*N. E. Journal of Education.*

SIR JAMSETJEE JEEJEEBHOY, who died a short time since at Bombay, was one of the most popular-spirited and philanthropic men in India. His father, who bore the same name, was the first native of India to receive an English title. Like his son, he was famous for his benevolence, expending in the endowment of charitable institutions the sum of \$1,250,000.

EDUCATION in Prussia is universal and compulsory, and there are about 28,000 schools, and over 3,000,000 pupils in attendance. The salaries paid to teachers are very small. The highest paid Berlin master gets only \$600 a year, and the lowest paid is the sewing teacher, who gets only \$50. It must be remembered that the cost of living, however, is much less than in America.—*N. E. Journal of Education.*

NEW YORK has 125,000 pupils in the public schools, 300 schools, and 3,000 teachers. In 1875, \$3,500,000 were given for their support, and \$150,000 went to supply books alone. The book-ring is very active in that city, as may be supposed. The schools are greatly overcrowded, and much sickness is the consequence: The New York College (Free) should be abolished, some think, as it costs \$150,000 a year to keep it up, and for only a few of the wealthy.

A LADY in Buffalo has a Sunday-school class of seventy-five young men. Thirteen years ago she began with a class of seven wild boys. She gave her class weekly receptions in her parlors, and played the piano and led the singing for them. Now her class of seventy-five have a band of music whose instruments cost \$700, a boat

club, and a literary society which publishes a small newspaper. She was only eighteen years old when she started this work.

AROUND THE WORLD.—On October 1st a large vessel, capable of accommodating 250 cadets, will leave New York city for a trip around the world. The object of this expedition is to give these young cadets an opportunity to see the world and receive a scientific education at the same time. Four young gentlemen of this city have enrolled their names on the list of cadets, namely, William G. Britton, George T. Gamble, Frank J. Sunderland, and Sherrod Williams.

At the meeting of the National Association in Louisville, a paper on "The Kindergarten in America," by Mr. John Kraus, was read; another paper on "The Kindergarten and the Mission of Women" was read by Mrs. Kraus-Boelte. The two papers were preceded by some remarks on kindergartening from Mrs. Hildreth. We are informed that much attention was paid to these things on the part of educators, and that kindergartening has received a new impetus in the right direction.—*The New Education.*

The employment of women in the telegraph department has been a complete success in England. Over 1,100 are employed in London, and there has been but one dismissed in four years. Their hours of work are from 8 A. M. to 8 P. M., each being on duty eight consecutive hours out of these twelve. In the establishment there is a kitchen and dining-rooms, and the girls have a thoroughly good dinner for twenty cents. The pay begins at \$2 a week, which is raised to \$3 when a girl is competent. Girls may enter from fourteen to eighteen. The average pay received is \$4.50 a week, and the highest is \$7.50 a week.

The laboratories for women which were established six months ago at the Massachusetts Institute of Technology appear to be successful. Some of the pupils are fitting themselves to teach: two have made special study for the purpose of assisting their husbands in business. Others take the course as a part of their education, without definite plans for applying their knowledge, and others still take some subject that will enable them to understand and to make collections at home, and to give their children an intelligent interest in some form of science.—*Ex.*

SOME interesting facts in astronomy have lately been discovered owing to the present extraordinary planetary display in our heavens. Among the most important of these is the discovery of two moons of the planet Mars. The smallest of these is not over 10 miles in diameter, or 30 miles in circumference, so that a man could walk around the little globe in a day. It is the smallest known world in the universe, and is distant from its principal only 30,000 miles. Our moon is 240,000 miles off.

AMONG the curious illustrations of the spirit of our times is the successful accomplishment of a tour around the world by a singer of the now popular religious ballads, Mr. Philip Phillips. Three years were spent in this novel circumnavigation of the globe, 40,000 miles travelled, and such out-of-the-way regions as the Sandwich Islands, South Africa, Tasmania, New South Wales, Australia, India, and Ceylon visited. Mr. Phillips has in ten years conducted nearly 3,000 song services.

AN interesting and striking lecture experiment in physics consists in boiling water held in place by a muslin net. This is accomplished by closing the mouth of a bell-jar with coarse muslin, and then de-

pressing it into a vessel of water, and drawing the water up into the jar by aspiration through a tube in the upper part. The bell-jar, on being raised out of the water, will retain its contents without leaking. A Bunsen flame may then be placed under the suspended water, and its temperature raised even to boiling without any of it escaping through the meshes.

THE *Monthly Weather Review* of the Signal Service gives as the most interesting features for the month of June the high temperature in California, the heavy rains in the Mississippi and Missouri valleys, the numerous severe local storms, and the general diminution of the grasshoppers and locusts caused by atmospheric agencies. The temperature on the Pacific side of the continent was something terrible; for instance, at Fort Yuma, 114°; San Diego, 93°; Stanwix and Maricopa Wells, 110°; San Francisco, 92°; Los Angeles, 112°; Spring Valley, 122°. Ice was reported at Rockford, Iowa, on the 10th.

CELESTIAL chemistry has taken another stride forward. In a paper recently read before the American Philosophical Society, and printed in the *American Journal of Science and Arts*, Dr. Henry Draper announces the discovery of oxygen gas in the sun, the fact being arrived at and verified by a long course of spectroscope observations. Viewed in any of its numerous aspects, this discovery is of immense interest. Whether as an extension of our knowledge of solar physics, solar chemistry, and the nature of the spectrum itself, or as throwing further light upon the constitution of the universe; whether as bearing upon cosmical theories that have attracted much attention, or as a triumph over the difficulties of complicated experiment, or, finally, as an illustration of hereditary genius in science, where a line of research opened brilliantly by the father

nearly half a century ago, has been pursued with equal brilliancy to this crowning result—however regarded, this exploit of the younger Draper must command unqualified admiration.—*Prof. Youmans, in Popular Science Monthly for September.*

THE Spelling Reform Association held its summer meeting at Baltimore, immediately after that of the American Philological Association. Prof. Whitney reported from the Committee on New Spellings, the plan recommended to the Philological Association by its committee, which was nearly identical with that of the Spelling Reform Association. The report was adopted without amendment, and therefore the two associations are in complete harmony. We purposed to have given this report before, but there has been delay in getting suitable type for the new letters recommended. In an early number it will be given in full, with practical suggestions from the committee as to the steps to be taken next. Prof. F. A. March was elected president; Melvil Dewey, of Boston, secretary; and Prof. E. Hubbard Barlow, Lafayette College, Easton, Pa., corresponding secretary and treasurer. All suggestions in regard to the new spelling should be addressed to Professor March, the chairman of the Committee on New Spellings; other communications to Professor Barlow.—*New England Journal of Education.*

THE cause of natural history education in this country has experienced a severe loss in the recent death of Sanborn Tenney, Professor of Natural History at Williams College, few persons occupying his position having been so successful in imparting instruction connected with his professorship, and enlisting the interest of students. His text-book of zoology has for many years been the principal manual of instruction in the United States, proving eminently adapted to its object. At the

time of his death he was about taking charge of an extended expedition, composed of students of Williams College, for the scientific exploration of a portion of the Rocky Mountain region. This was in continuation of previous explorations of a somewhat similar character sent out by the college, for the most part organized by the College Lyceum of Natural History—Labrador, Florida, Venezuela, and other countries having been successively explored. He was just about leaving Buchanan, Michigan, to join the rest of his party at Chicago, when he was suddenly struck down by an attack of heart-disease on the 10th of July.

PROF. HAYDEN, of the U. S. Geological Survey, who recently visited the Pacific Coast States, in company with Sir Joseph Hooker and Dr. Asa Gray, included the Yosemite in his trip, and made a careful, scientific examination of the Valley. He was profoundly impressed with the scenery, and, although time did not permit of a thorough sifting of the origin of the valley, he inclined to the opinion that the supposition of a cataclysm, such as the sudden sinking of the valley, leaving its present inclosing walls frowningly separate, is incorrect, but rather the formation of the valley is the result of erosion, slowly accomplished during a long lapse of years by water and perhaps by ice. This gradual process of grinding the material of the rocks into fine particles and the transportation of the debris by streams, such as the mining streams of to-day, only requires the allowance of time to account for the valley, and time in other regions has permitted formations quite as wonderful to be eroded. The author of this theory is John Muir, a scientific observer and writer of rare merit, who has already secured the appreciation of the scientists of the New World, and with whom our readers have a tolerable acquaintance. Mr. Muir's first

extended volume, *The California Alps*, is now in press, and, we predict, will make its author famous in the literary and scientific world.

ITEMS FROM STATES AND COUNTIES.

OREGON.

From a report sent us by J. J. Browne, Superintendent of Multnomah County, which includes Portland, the metropolis of Oregon, we glean the following facts: There are 4,998 children between four and twenty years of age in the county; 2,765 attend the public schools, an increase of 631 for the year. There are thirty-six organized school districts in the county, thirty-two of which have school houses and grounds valued in the aggregate at \$84,510. The value of the furniture, apparatus, globes, maps, etc., amounts to \$7,333.75. There has been but one (No. 6) new school house built during the year, though several districts have made substantial improvements. The prospects, however, are very flattering that a number of good school buildings will be erected the coming year.

The Dalles public school opened September 3d, under the following corps of instructors: High School department, S. N. Barrett, A.M., Principal; Intermediate department, Miss Mary Wall; 1st Primary department, Miss Mary Snyder; 2d Primary department, Miss Hattie Collier.

The school for deaf-mutes, in Portland, has over forty pupils.

The public schools of Portland are in a very crowded condition.

Dr. Marsh, a professor in the Pacific University, Salem, is in ill-health.

Eugene City has just completed the erection of a \$10,000 school house.

The State Teachers' Institute, held in Portland, on the 28th, 29th and 30th of August, was a decided success in every respect. The attendance was good, the addresses excellent, and the utmost harmony and sociability prevailed. From all accounts, the Oregon schools are enjoying a period of unusual activity and progress under the efficient administration of State Superintendent Rowland.

STATE OF NEVADA.

Prof. C. S. Young has started a private school in Virginia City, which is very successful. Latin is included in the course of study.

The number of school children has increased so rapidly in Gold Hill, that accommodations, which were thought ample two years ago, are now insufficient, and a new school house is asked for.

Virginia City employs twenty-six teachers in the public schools, and Gold Hill thirteen. There are 2,000 pupils in attendance.

WINNEMUCCA COUNTY.

Chas. Chenoweth, a gentleman who evidently takes great interest in the schools under his charge, is Superintendent of this county. We make the following extracts from a letter recently received from him: "There are in the county six schools, three of which are primary, two unclassified and one grammar. There are three school houses: one at Unionville, valued at \$4,000; one at Winnemucca, valued at \$5,000, and one in Paradise Valley, valued at \$600. There are 356 children between six and eighteen years of age, 170 of whom are boys and 186 girls; and 289 children under six years of age. There are four male teachers at an average salary of \$100 per month, and two female teachers at an average salary of \$82.50 per month. There are four schools maintained over nine months in the year, and the average of all the schools in the county is eight and one half months. The longest time any teacher has taught the same school is six years, that teacher being J. B. Case of Paradise Valley."

Mr. Chenoweth goes on to say: "I have adopted for use in examinations the papers used quarterly by the County Boards of California. Hence our examinations are somewhat similar to those of your State."

CALIFORNIA.

SAN FRANCISCO COUNTY.

Prof. A. L. Mann, of the Boys' High School, has been elected City Superintendent, to succeed the present incumbent, H. N. Bolander. Mr. Mann has been a frequent contributor to the JOURNAL. We understand that there will be no change in the Deputyship. D. C. Stone, the present popular and efficient deputy being continued. This is as it should be, and will give

general satisfaction. The usefulness of the San Francisco schools has been much impaired by the changes which have taken place biennially. It is to be hoped now that the department will progress under the same administration for the next six or eight years. We know we represent the wishes of the best teachers in these suggestions.

Among the recently elected members of the Board of Education are the gentlemen whom we especially recommended, in our last issue, to the suffrages of their fellow citizens—Joseph Leggett, Joseph Clement, Dr. A. A. O'Neil and Capt. Philipps, who were all elected by handsome majorities.

A well-earned tribute to the sterling worth of the President of the Board, rendered by a unanimous vote of his fellow members, was naming the Geary and Jones street school the Clement Grammar School. The precedent is an excellent one, and could well be extended by changing the names of such schools as the Eighth Street, the Valencia Street, etc.

Another pleasant social and literary entertainment was given by the "Teachers' Mutual Aid Society," in Lincoln Hall, on September 14th. Dr. A. A. O'Neil, of the Board, presided. An interesting feature of the evening's entertainment was an essay by Miss Collins, descriptive of the woes of a young woman seeking a position in the San Francisco schools, which would be worthy of a place in the funny corner of the JOURNAL, had we such a thing; another was the debate, in which D. C. Stone, Prof. C. H. Silliman, and Mr. Hamilton made some excellent points *pro* and *con* on the subjects of the general government assuming control of the Railroads. Ice cream and a dance closed an exceedingly pleasant evening's exercises.

The people of San Francisco may congratulate themselves on the high character and intelligence of the newly elected members of the Board of Education. We do not know all the gentlemen, but have heard the names of John W. Taylor, A. C. Heister, J. F. Sullivan, J. A. Laven, and Joseph S. Bacon mentioned in terms of warm commendation.

Prof. A. L. Mann lectured before the students of the State University, Aug. 24th, on "Classical and Scientific Studies."

John Swett, Principal of the Girls' High School, lectured before the students of the University of California, on the 28th. The subject

of the lecture was, "The Art, Science, and Profession of Teaching."

A. L. Fitzgerald, a gentleman widely known and equally respected for his ripe scholarship and manliness of character, is engaged in the evening schools of this city.

The evening schools of this city opened on September 3d, for the year 1877-78. The number of teachers, thus far, engaged is twenty-six, and about 800 pupils are enrolled. There are three classes in which industrial drawing is taught, and two for the study of book-keeping and commercial arithmetic. Joseph O'Connor, of the Washington Grammar-school, is Principal of these schools.

ALAMEDA COUNTY.

The total number of children in this county is 12,544, taught by 143 teachers.

J. C. Gilson, Principal of the Pleasanton school, has been elected County Superintendent. The position is next in importance to the San Francisco Superintendency.

Six hundred children are in daily attendance in the Alameda public schools. There are five school-houses and eleven teachers employed. At the next session of the Legislature, application will be made for power to erect two more school buildings, the demand for school facilities being constantly on the increase.

The Alameda Cosmopolitan School, under the direction of Prof. Klinkworth, was opened to receive pupils September 3d, at Harmony Hall.

The cost of membership in the School Union is fifty cents admission, and fifty cents per month. Tuition, \$2.50 per month per pupil. Members only can send pupils.

The pupils of the Alameda High School, A. F. Craven, Principal, held public exercises August 29th, in which the pupils acquitted themselves very creditably.

A good school-house is much needed at Berkeley, and as the requisite number of children can be produced, an effort will soon be made to form a new district.

SONOMA COUNTY.

County Superintendent McMeans has appointed E. W. Davis, the Superintendent-elect of this county, his deputy. This will enable Mr. Davis to familiarize himself with the duties of the office before his induction in March next. Mr. Davis's election is highly complimentary to him

as a teacher and man, as he was nominated and elected on the Republican ticket, in a county where the Democratic majority is usually upwards of 1,000.

The Santa Rosa school had a three weeks' vacation in September.

An institute of the teachers of this county was held at Petaluma, from Tuesday, September 18th, to Friday, September 21st, Superintendent McMeans presiding. The greater number of the teachers of the county were present, and the session was an exceedingly interesting one. Addresses were delivered by State Superintendent Carr, Mrs. Carr, and Prof. Allen. The following gentlemen were elected Vice-Presidents: Messrs. G. W. Jones, O. S. Ingham, J. E. Putnam, J. W. Johnston, E. W. Davis, C. E. Hutton, and Maj. Jas. Singley. Secretaries: E. T. Crane and Wm. Acton. Notable among the addresses and essays were the following: An address of welcome by Prof. Hutton, of Petaluma; an opening address to the Institute by Superintendent McMeans; an essay on "Ye Ancient Pedagogue," by Prof. O. S. Ingham, of Healdsburg; essay, "Your Real Self," by W. R. Davis, of Berkeley; "Our Profession," by A. J. Tobias; "Spelling and the Use of the Spelling-book," by M. E. G. Munday; "Public Schools," by Mr. Seeley; an essay on "Teachers' Wages and County Superintendents," by G. F. Myrick; "Phonetics," by Freeman Parker; "Enthusiasm in the School-room," by J. G. Johnson; "The Course of Study," by Wm. Acton, and "Strategy in the School-room," by Mr. Putnam.

LAKE COUNTY.

The Lakeport public school is prospering greatly under the new Principal. An additional teacher has been employed for the Primary Department.

Prof. N. Smith has been appointed Deputy-Superintendent of schools for this county.

S. W. Shirley has been elected Superintendent of the county.

COLUSA COUNTY.

Samuel Houchins, Superintendent of this county, was elected in September. Well deserved, for Mr. Houchins is one of our best Superintendents.

Miss Callie C. Vivian, of Colusa, has taken charge of the Princeton school.

The Webster school, Colusa, commenced on September 30th, with a large number of pupils.

The Principal, G. A. Kern, is a young man of great ability, and just the right man for this responsible position.

Pierce Christian College, at College City, has nearly 100 students. Both the village and College are comparatively new.

J. Frank Wharton, at one time editor of the Colusa *Independent*, is teaching the Grand Island school.

SAN JOAQUIN COUNTY.

The city Superintendent of Stockton, Geo. S. Ladd, has been re-elected at a salary of \$900.

The Stockton schools are filled to overflowing with pupils, at the beginning of this school year.

CONTRA COSTA COUNTY.

E. L. Wemple has been elected Superintendent of this county, to succeed Alfred Thurber, the incumbent for the past eight years. Mr. Wemple is a graduate of the California State Normal School, and an excellent teacher.

KERN COUNTY.

The Trustees of the Kern Island school district are about to begin the erection of a brick school-house.

Miss Harris opened the Sumner district school on the 10th of September, for the autumn term.

There are 1,121 children of school age in this county.

YUBA COUNTY.

E. S. Leach is conducting the Strawberry Valley school, in this county, with success.

M. H. Steel has, for the fourth time, and by a large majority, been elected to the Superintendency of Yuba County. Were all our county superintendents as cultured and efficient as Mr. Steel, there would be fewer changes in office and more educational progress in this State.

The Yuba City schools, O. E. Graves, Principal, and Misses S. E. Craddock and Mary Grover assistants, opened for the autumn session on September 10th.

MARIN COUNTY.

S. M. Augustine, a teacher of experience and ability, has been elected Superintendent of this county, over the present incumbent, Mr. Saunders. The latter is not a teacher; we therefore are pleased to believe that the people of Marin decided in the best interest of their schools.

The school at Pt. San Quentin is taught by Miss S. E. Morey, a lady of superior attainments. She has sixty scholars.

SAN MATEO COUNTY.

The Teachers' Institute of this county will meet October 3d, in Redwood City.

Mr. H. V. Clarke, recently a pupil of the State University, has assumed the Principalship of the Half Moon Bay School. The following extract, descriptive of the location and surroundings of this school, will prove of interest: "The school-house is situated near the ocean, and on the verge of the beautiful crescent, seen from the summit of the mountains, which is very suggestive of the name—Half Moon Bay. A beautiful stream of clear water courses its way past the school house and is soon lost in the vast waters of the Pacific. The location, with its ocean, bay, lagunas forming miniature lakes, creeks, and its mountains and valleys in the background, is an excellent place for the study of local and practical geography. Miss Alice Wolfe, the assistant, who has been engaged in the school over a year, is a thorough teacher, and is doing excellent work in the school."

The following resolutions, adopted at a public meeting, in a district of this county, explain an act of public spirit highly commendable and worthy of imitation:

WHEREAS, The school house of Pharis district being in great need of repairs—in fact almost unfit for occupancy, Mr. S. P. Pharis magnanimously came forward and assumed *all* of the responsibility of its rehabilitation, in doing which he expended over five hundred dollars. Now it stands one of the most beautiful school houses in the county, an ornament to the district, and the pride of its people; now, therefore, the citizens of this district, in meeting assembled, have hereby

Resolved, That we tender Mr. S. P. Pharis our heart-felt thanks for his generous action in supplying the youth of this district with such elegant and commodious educational facilities.

Resolved, That for this and many other acts of kindness he has extended to this people, we will ever hold him in grateful remembrance, and desire to convey to him our sincere hope that his lines may fall in pleasant places, and may he realize to its fullest fruition that happiness which well-doing ever entails.

MONTEREY COUNTY.

Of the fifty-two teachers employed in Monterey county, only two are graduates of the State Normal School.

There are nine students from Monterey county attending the State Normal School at San Jose.

The salary of County Superintendent is \$800.

R. C. McCroskey has been re-elected to the Superintendency.

There are 3,446 children in the county between five and seventeen years of age, and 1,394 under five years of age.

Philip Prior, formerly Principal of the Union Grammar School of San Francisco, is Principal of the High School of Salinas City. Mr. Prior is held in the highest estimation in Salinas, where he is doing excellent work.

S. M. Shearer, formerly prominent as an excellent teacher in various parts of this State, is now in business in Salinas. His interest in education continues unabated; we see him reported as presiding at a "spelling bee" in that city, and offering a prize to the best speller.

Examination Questions.

QUARTERLY EXAMINATION.

[September 1877.]

These questions must be held exclusively by the Chairman of the Board of Examiners, who is responsible to the State Board for their use. Any examinee who is found guilty of fraud or deception, must be forthwith expelled from the class, and the name of such offender reported to the State Board.

Examine no applicant who is less than eighteen years of age. Report to the State Board all the names and papers of applicants for a State Certificate, as soon as practicable.

Carefully read, and be governed by the regulations of the State Board of Examination, as published in the last edition of the School Law, especially the following declaration, to which every examinee must subscribe:

"I now, at the close of this examination, conscientiously declare that, prior to each session, I had no knowledge of the questions prepared, that I have neither given to any one, or received from any source, explanations, or other aid in answering any of them, that I am not less than eighteen years of age, and that the answers to the General Questions are true. I do so declare."

GENERAL QUESTIONS.

1. State your name, age, and birthplace. 2. Where educated. 3. Your experience in teaching. 4. What certificates or diplomas you hold. 5. Are you an applicant for a State Certificate?

N. B. Nos. 12 and 13. (*Composition and Penmanship*) are to be determined from the other papers submitted.

ORAL READING.

(15 credits.)

The Examiners should have each candidate read a few paragraphs in prose, and a stanza or two of poetry, and mark the credits, considering three things, viz: care and smoothness, distinctness of articulation, and expression.

THEORY AND PRACTICE.

(50 credits.)

1. What is meant by "Education" in its broadest significance? 2. What do you understand to be the scope of public school education? 3. Define Theory, Science, and Art. 4. Is there a Science of Education, and if so, upon what is it based? 5. Mention some of the qualifications of a good teacher.

WORD ANALYSIS.

(50 credits.)

1. What benefits should be derived from the study of Word Analysis? 2. When is the final consonant of a word doubled before a suffix? Give examples. 3. When do we retain, and when reject the final e of a radical word? Give examples. 4. Give six suffixes meaning *to make*, with examples of each. Six, meaning *one who*, with examples. Six, denoting *rank*, the State or office. (10 credits.) 5. Show how you would conduct a recitation with the word *Art* as a text? 6. Mention two ways in which the meaning of radicals may be fixed in the mind. 7. What is the difference between a negative and a privative particle? 8. What is meant by Teutonic, Romanic, and Anglo-Saxon origin. 9. Origin and meaning of jubilee, tantalize, Mausoleum, gordian, epicure, radiation?

ARITHMETIC.

(100 credits.)

1. Express in words, 321,000,000,500,224,506. 2. Add $3\frac{3}{4}$ to 57-13 and divide the sum by $10\frac{2}{3}\% \frac{13}{13}$. 3. Find the G. 3 $\frac{3}{4}$

C. D. and L. C. M. of 256, 372, 522. 4. Change the following to thirds, and add them: 15 4-9 and 4-5. 5. How many solid cords in 12,000 feet of inch boards? 6. A tree in the Calaveras Grove is 30 feet in diameter and 300 feet in height, what number of inch boards will it make, allowing one-third for waste? 7. The circumference of a circle being given, how would you find its area? The diameter given, how would you find the circumference? 8. Explain the Metric System and give its advantages and disadvantages. 9. Explain the terms insurance, policy, premium, salvage. 10. Explain the required method for teaching Arithmetic in the public schools, and state what works you prefer.

ORTHOGRAPHY.

(100 credits.)

1. What are the legal requirements respecting instruction in spelling in our public schools? (Give five credits.)

2. Spell and capitalize, correctly, the following geographical names: (two credits each.) Visalia, Santa Monica, Stanislaus, Merced, Saucelito, Yuba, Del Norte, Yreka, Siskiyou, Soquel, Dolores, Alameda, Tulare, Vallejo, San Joaquin, Ukiah, Tuolumne, Mendocino, Humboldt, Wahsatch, Martinez, Los Angeles, Mokelumne, San Andreas, Galt.

3. Spell the following: (one credit each.) Seize tease, draught, gauge, knoll, lien, sieve, scythe, skein, squeal, twelfth, mulct, witicism, vehicle, acacia, bissextile, proboscis, biennially, diligence, definite.

4. Correct the following: (one credit each.) Dazling, bennished, nuckel, nayber, sorce, klowdy, camfeen, sifur, mottoze, bluber, adew, tifoon, ranedere, ruffor, tunel, ade, dutefull, currency, allegater, lukwarm, curnel, synynim, remittance, joly, leding.

NATURAL PHILOSOPHY.

(50 credits.)

1. What is meant by Natural Philosophy, Physics, and Mechanical Philosophy? (10 credits.) 2. What is meant by property, force, law, conservation of force, correlation of forces? (10 credits.) 3. Explain, briefly, Morse's magnetic telegraph. (5 credits.) 4. Give the theory of light, its velocity, and state how it was first determined. (10 credits.) 5. Which is the warmest in the sunshine, white or black clothing? Which in shade? (5 credits.) 6. Why does common glass intercept more heat from a stove, than from the sun's rays?

PHYSIOLOGY.

(50 credits.)

1. Define Anatomy, Physiology, and Hygiene. 2. Why is breathing necessary for life? What is life, and what is death, physiologically? 3. What is the constitution of the atmosphere, and how is it altered by breathing? by burning gas and lamps? 4. How many cubic feet of air will an adult render unfit for breathing in an hour? What is adequate ventilation? 5. What is the gas found in old wells; how does it affect animal life, and how may its presence be detected?

NATURAL HISTORY.

(50 credits.)

1. Give the names, common and botanical, and range of two coniferous trees, found only in California, and state their economical uses. 2. Name three of the best varieties of grapes for the table, three for raisins. Are any of the cultivated varieties indigenous? 3. How may new varieties be produced, and what are the most common methods of propagation. 4. What insect has nearly destroyed the vineyards of France? Has it appeared in this State? State what you know of its Natural History, and remedies? 5. How would you begin to teach the Elements of Natural History to children?

MENTAL ARITHMETIC.

(50 credits.)

1. $\frac{2}{3}$ is 7- $\frac{1}{2}$ of what? 2. Find the sum of $\frac{1}{3}$ and $\frac{2}{3}$. 3. From $4\frac{1}{2}$ take 2- $\frac{1}{2}$. 4. Product of 104 by 9? 5. Quotient of 8 by .04? 6. How many inches is 5- $\frac{1}{2}$ of a foot? 7. How many ounces in $\frac{1}{3}$ of a pound of gold? 8. Prime factors of 120? 9. Cost of 7- $\frac{1}{2}$ yards of cloth, at 16 cents a yard? 10. Multiply $\$2\frac{1}{2}$ by $\$1\frac{1}{2}$.

ORAL GRAMMAR.

(25 credits.)

NOTE.—Examiners will ask the following questions, orally, at any time during the examination.

1. How would you proceed to teach a class in language lessons, during their second school year? 2. How would you proceed to correct the written exercises of a class? 3. How would you develop the parts of speech? 4. Is Composition a part of English Grammar? 5. With what elementary books on Grammar or Language are you familiar?

HISTORY OF UNITED STATES.

(50 credits.)

1. When, where, by whom, and for what purpose was California first settled? 2. Give a concise account of its

- social, agricultural, and educational condition under Spanish and Mexican rule. 3. By whom, and for what purpose were the Mexican and Railroad land grants made? 4. What four nations originally claimed the territory which ultimately became the United States? 5. What colonies first made provision for public schools?

CONSTITUTION OF UNITED STATES AND CALIFORNIA.

(25 credits.)

1. What are the three divisions of the United States Government, and what are the functions of each? 2. How are the Judges of the Supreme Court of the United States appointed, and for what time? 3. Are the judges of our Supreme Court appointed? Where does our Supreme Court meet? 4. Give the County Government of this State. 5. What is *Treason*, and how is it punished?

SCHOOL LAW OF CALIFORNIA.

(25 credits.)

1. What is required of a teacher before commencing to teach in the public Schools? 2. Upon what does the grade of a school depend, and who fixes the grade? 3. How, and from whom do teachers get their salary? 4. What is the teacher's remedy, who is discharged before the time expires? 5. What is the last duty of a teacher before closing school?

INDUSTRIAL DRAWING.

(25 credits.)

1. Give three examples of the utility of teaching drawing in the public schools. 2. What is taught, in the regular course, as laid down in the method adopted by the State? 3. Draw a figure containing four right, four obtuse, and four acute angles, and give ten questions, as to a class, concerning the figure. 4. What kind of lines would form a concave or a convex surface? 5. How many kinds of triangles are there, and from what do they take their names?

VOCAL MUSIC.

(25 credits.)

1. Give a sketch of one year's work in music, which might be practicable in an ungraded school. 2. How many keys or scales in common use? 3. Give the name, by letter, of the 1st, 4th, 5th, and 7th of each scale. 4. How many kinds of time are there? 5. Give an example of each.

GEOGRAPHY.

(50 credits.)

1. Bound California. Between what parallels of latitude? Length of Coast line? Area and population? (15 credits.) 2. Draw an outline map of the State, with its principal mountain chains, valleys, rivers, and harbors. (15 credits.) 3. Bound this county, and tell what you know of its principal geographical features, climate and productions. (10 credits.) 4. Name the principal agricultural productions of the State, where grown, the principal mineral products, where found, and the relative value of the two. (15 credits.) 5. What are the principal exports? Imports? (5 credits.)

GRAMMAR.

(100 credits.)

In the following sentences, parse, in full the italicised words:

1. He who by the plow *would thrive*, himself must hold the plow or *drive*. 2. Let there be no *strife*, I pray thee, between me and *thee*, for we are *brethren*. 3. What

does the passive verb (or passive voice) signify, and how is it formed? 4. Form sentences, containing the following verbs in the passive, (a) *drive*, (b) *drown*, (c) *set*, (d) *lay*, (e) *dream*. 5. Write a sentence, containing a perfect participle, used simply as a participle. 6. Write sentences containing *that* (a) as a noun, (b) as an adjective, (c) as a relative pronoun, (d) as a conjunction. 7. Write sentences containing *what* (a) as a double relative, (b) as an interrogative pronoun, (c) as an interrogative adjective, (d) as an adverb. 8. When *self* is added to the personal pronouns, what are they called, and in what cases are they used? When should they be used? 9. What are the plurals of *radius*, *phenomenon*, *deer*, *wharf*, *tableau*, *axis*, *focus*, *cherub*. 10. Correct *drownded*, *I throwed*, *had rather*.

WRITTEN READING.

(35 credits.)

1. Explain the analytical and synthetical methods, and the difference between the two methods. 2. Give a sketch of a lesson on the objective plan. 3. What is Phonetic Reading? 4. Give five different standard methods of teaching reading. 5. Define Orthoepy, Pitch, Force, Time, Orthophony. 6. Define "Quality" of voice, and describe or give names to different qualities. 7. Give four rules, with examples, for rising inflections. Give four rules, with examples, for falling inflections.

ALGEBRA.

(50 credits.)

1. Define the following terms: greatest common divisor, least common multiple, rational quantity, surd. 2. Divide $x^3 +$

$$x^{\frac{1}{2}}y - xy^{\frac{1}{2}} - y^{\frac{3}{2}} \text{ by } x^{\frac{1}{2}} - y^{\frac{1}{2}}. \quad 3. \text{ Given } \frac{I}{x} + \frac{I}{y} = a, \frac{I}{x+z} = b \text{ and } \frac{I}{y+z} = c, \text{ find the values of } x, y \text{ and } z. \quad 4. \text{ Multiply } 2 + \sqrt{-9} \text{ by } 3 - \sqrt{-1}. \quad 5. \text{ Find, by inspection, all the roots of the equation, } x(x^2 - 1)^2 (x - a)^3 = 0.$$

The following ingenious spellings of the name of the little insect that has devastated the vineyards of France were taken from the papers of the candidates at the examination of teachers. If the vineyard men find it as hard to get rid of the little pest as the candidates did to spell its name, we think they are in a bad fix: *Phollyera*, *phyllsera*, *phyloxora*, *phylloxure*, *philleroxa*, *philloxera*, *protoxyph*, *phillaxera*, *philosphera*, *philosoras*, *Philostine*.

JULIAN, SAN DIEGO CO., CALIFORNIA.

September, 8th, 1877.

EDITOR PACIFIC SCHOOL AND HOME JOURNAL: In your Magazine for the current month, I find the following questions. Claiming less originality than a desire to assist in their correct answering, I subjoin the following:

First.—In teaching a subject like Geography or Arithmetic to young children, why should we not commence with general definitions?

Because general definitions require the enunciation of

abstract principles too wide in their latitude for beginners, thereby puzzling, confusing and wearying them.

Second.—Explain the Socratic method of imparting knowledge?

This method (the name of which is derived from the name of the celebrated Athenian philosopher Socrates) was a style of instruction in which questions and answers were used to impart the desired information. The intention was to develop the causal faculties and induce the learner to form the habit of personal inquiry and research. It was the prototype of our modern inductive system.

Third.—What principle is violated in attempting to teach the objective case of nouns to pupils before they understand the properties of verbs?

The principle of consistent analogy, which requires that the parts must be understood before the whole can be comprehended.

Ninth.—What is meant by the proposition, "Methods of teaching should be suggestive?"

It is meant that education should be more of an *evolving*, a *waking-up* process than simply a set intent to memorize, cram, and learn by rote. That that method which suggests and awakens a dormant train of thought is more effectual than where the learner is the passive recipient of a number of unwieldy facts, without calling into action the perceptive faculties.

Tenth.—Name the first steps in teaching an empirical science.

The first step should be to prepare the mind, or rather to awaken it, by the "suggestive" method spoken of in the ninth question. The second step to be a demonstrating of the folly of jumping at conclusions, and carefully observing and proving the problems and principles of the science in question before announcing them as facts.

Eleventh.—Name the first steps in teaching a rational science.

Three essentials for success in teaching a rational science are, 1st. A thorough statement and understanding of the fundamental principles of the science in question; 2d. The investing of the subject with a certain amount of interest; 3d. To assist only where positively requisite, and to leave the learner to explore for himself facts indicated by the instructor. Yours respectfully,

J. F. HALLORAN.

BOOK NOTICES.

HARPERS' HALF HOUR SERIES. New York: Harper & Brothers. San Francisco: Roman & Co.

These unique miniatures are charming little volumes. They take the eye at once by their neat grey costume with red outlines. They are very appetizing to the taste of summer travel. They pack like "goodies" in pocket or reticule. And if these numbers are samples of all, the selections are as good as the dress. Every classical student must enjoy reading the Primers of Greek and Latin Literature, giving the rise and decline with details of each noted author, and an outline of each historical period; a compend that few will make for themselves, and a very valuable one.

"Peter the Great" was written by Motley the Historian, before he began his more ambitious

work; but it bears the water-mark, as the school-boy compositions of Macauley are said to have done. This half-hour essay will give one all he will care to carry in his memory of the Great Peter, told in very attractive style.

"Percy and the Prophet," is by Wilkie Collins. If you take up this dainty little volume when you have a half-hour at your disposal, you will not probably drop it until you have read the last line, for it is on the subject of mind reading, or mesmerism, told as Wilkie Collins knows how to tell a tale.

AMERICAN HISTORY, for Schools, accompanied with numerous Illustrations from original designs and colored maps. By G. P. Quackenbos, LL.D., author of "Advanced Course of Composition and Rhetoric," an "English Grammar," "Illustrated Lessons in Our Language," etc., etc. New York: D. Appleton & Co.

This volume of 300 pages is a very attractive book to pupils. It is adapted for Grammar classes, of first and second grades. It claims as distinctive merits accuracy, impartiality, well-connected statements, not too fragmentary—in addition to bald facts, something of the real state of society and intellectual growth of the people; topical and analytical reviews, including chronology, geography, biography, contemporaneous events, etc. etc., which claims we believe can be pretty well sustained. This plan of review is suggestive and valuable to the teacher not inclined to review sufficiently.

Then the make-up of the book in Appleton's attractive dress is a pleasing feature. We feel almost assured that this would warrant a sale on sight. The illustrations are really works of art, and the portraits true likenesses. In the series it stands between the Primary and the larger work of 500 pages, which come to us well endorsed by Eastern educators and literary men. A possible objection may be made, that it is too elementary for the grades named. But we think not. It is new material, and distinct from the other volumes.

THE NEW AMERICAN ARITHMETIC, Parts 1, 2, and 3. J. H. Butler & Co., Philadelphia: Payot, Upham & Co.: San Francisco.

This is a new series, written evidently by working teachers as working text books. One good feature of them is, that, Part 2 begins where Part 1 leaves off, and so of Part 3. They logically follow each other, and the higher Arithmetic does not have the Primary bound up with it. Part 1 leaves out all theory and cultivation of the

reasoning powers, and aims to make the pupil see facts without any special why or wherefore; still, principles are made clear by oral exercises. Oral and written lessons of equal extent are given on alternate pages, until the mysteries of the fundamental rules are well understood. Then they go up to a higher work, and in Part 2 finish everything considered important through Decimals in a similar manner. Then Part 3 takes them through Percentage, Partnership, Evolution, Involution, and Mensuration, oral exercises preceding written work at every new subject. Finally, about fifty pages of Higher Arithmetic is given. And none of the volumes are large enough to frighten the pupil. But they are filled with solid work and no chaff. They pre-suppose a capable, ready, and working teacher, therefore no answers are found in the book. The water-mark seems to be, "We mean business."

AN ANALYTICAL GRAMMATICAL CHART OF THE ENGLISH LANGUAGE, by Prof. J. Derham, of Christian College, Santa Rosa, Cal.

This chart is intended to present at a glance an analytical view of the science of Grammar, included in orthoepy, orthography, etymology, syntax and prosody. It is a condensed form of principles clearly stated and arranged, so that the thorough and ready teacher can, with this as a large wall chart, give his classes an insight into the whole subject at once. Then by taking up topics and elaborating them—still keeping in view the relation and connection of the parts, all of which are before the eye at once—he may lead them over the ground, intelligently, in a shorter time than by the usual text-books.

THE HERITAGE OF LANGDALE, by Mrs. Alexander, author of "The Wooing o't," "Her Dearest Foe," etc. New York: Henry Holt & Co.

POET AND MERCHANT, A Picture of Life from the Times of Moses Mendelssohn, by Berthold Auerbach, author of "The Villa on the Rhine," "On the Heights," etc., translated by Charles T. Brooks. New York: Henry Holt & Co. San Francisco; Roman & Co.

These two volumes belong to the "Leisure Hour Series," a title that implies leisure time that must be enjoyed in some way. Intervals in business, breaks in daily duties, on a steamer, in the cars—waiting, and time must be killed—visiting, and you cannot be entertained for the hour, at such times these volumes come to you and offer entertainment—often real pleasure and profit. Mrs. Alexander can hardly fail to hold the reader's attention, even if he reads under

pressure of time, and when Maud's strange story is begun it will be followed to the end, we are sure.

"Poet and Merchant" is a story of Jewish life—the story of a youth with a poetic soul doomed to become a Rabbi. The bright, beautiful world of sky and water and flowers and sunshine was to be renounced for the dark, dismal study, with its black, smoky book-cases and folios of Babylonish superstition, Talmudic miracles and rabbinical parables. But the Rabbi who was to train him became a skeptic, a dissenter, and drop by drop he filled his soul with doubt, until he finally makes his "Exodus from Egypt," turns heretic, is tortured by remorse, and goes mad at last. It is not a fascinating book—not a pleasant one, but has some strongly marked characters in Auerbach's style.

ELEMENTARY COURSE IN GEOGRAPHY: Designed as a Class-Book for Primary and Intermediate Grades, and as a Complete Shorter Course for Ungraded Schools; also a **COMPLETE COURSE IN GEOGRAPHY**; Physical, Industrial and Political; with a Special Geography for each State in the Union. Designed as a Class-Book for Intermediate and Grammar Grades. By William Swinton, author of "Word-Book Series," "Language Series," "Outlines of History," etc. New York and Chicago: Iverson, Blakeman, Taylor & Co. San Francisco: A. Roman & Co.

Mr. Swinton, in this series has made a very earnest effort to write Geographies that should please and satisfy the majority of the thoughtful working teachers. Having been a teacher himself, he sympathises with the feeling of the necessities of the case, and has given nearly five years of his time to this work. We think he has produced good books. He begins the larger work, it is true, with mathematical geography, to which so much objection has been made, but then he prefacing each memory lesson with conversations, in which all general principles and terms are carefully made clear, and step by step a generalization is arrived at, which forms the memory lesson. Another feature, for which maps are also arranged, is the lessons in the special Geography of each State, which are much fuller in detail than the body of the book. Special attention is also given to Industrial Geography, showing the prominent fields of labor in the different sections. The whole is so arranged in paragraphs and topics as to make question and answer easy, and at the same time sufficiently full to secure intelligence. The Primary is written to suit the capacity of the youngest

pupils, and graded so as to supply the want of the lower classes in the Grammar schools, being decidedly objective in method, and each memory lesson deduced from the oral proceeding it. A special feature is the reading lessons written in a style to make them so interesting as to fix the main facts in the memory, and so pupils come to know all about a country without the tedious labor of hard lessons. This volume is freshly written, and is not a condensation of the large work. The maps and illustrations in both are artistic and attractive, and we should think the books would sell at sight.

The Popular Science Monthly for September is a good number, as usual. The following papers are some of the best: "Odd Forms among Fishes," by S. Tenney; "Does it take Time to Think?" "Instinct and Intelligence." There is also an interesting sketch of Prof. Newcomb, of the Naval Observatory, Washington. [Among the Miscellany, we are sorry to see the notice of the death of Prof. S. Tenney, author of "Tenney's Natural History," which we used for several years with great satisfaction, and which is doubtless one of the best school manuals ever published. We are sad to know that he has fallen in the midst of his usefulness. He may not have been a great naturalist, but he was a very useful one.]

The Supplement (No 5) to the *Popular Science Monthly* (September) comes to us with the following good things among its table of contents, which suggests to us that, we should never have seen them if the *Supplement* did not exist:

Part II (New Testament) of Prof. W. R. Smith's article on the Bible, on account of which he was suspended from the Presbyterian Church, in Scotland; Secret Societies in Russia—D. M. Wallace. [Wallace's Russia is said, on high authority, to be the best work ever written on that country.] Dr. Carpenter on Spiritualism—A. Russel Wallace; Trial of Jesus Christ—Alex. Taylor Innes; Curiosities of the Voice—which we republish, and other appetizing articles.

THE OCTOBER MONTHLIES.

Harper's Magazine for October is at hand, with, if possible, a richer and more varied table of contents than ever. The number contains 105 illustrations. The most important paper in the number is General McClellan's article on the Regular Army of the United States, advocating its increase, and making suggestions for its more efficient organization. The very able and richly illustrated paper on the "Campaign of Burgoyne," by W. L. Stone, is timely in connection

with the approaching celebration at Saratoga. Mr. Benjamin's article, "From Brusa to Constantinople," with twenty-one engravings, gives considerable information of an historical character, but is in the main a lively description of scenes connected with the Eastern war. Dr. J. N. Draper continues his scientific explorations, which are particularly valuable to teachers. He has in this number "Popular Exposition of some Scientific Experiments," treating of Burning-Glasses and Mirrors. But the most charming of the illustrated papers is that which opens the number—"Mytown," under which title Rose Terry Cooke describes a characteristic New England town. These are but a few of the articles in this number the *Drawer* of which is especially good.

The *Galaxy* is a number of unusual interest, and contains several noteworthy articles, among which may be mentioned "The Tariff and the Hard Times," by Horace White; "Forrest, from an Actor's Point of View," by Lawrence Barrett, an actor and gentleman well-known in California; a chapter on "President Lincoln's Administration, giving Mr. Lincoln's ideas of colonization as an accompaniment to emancipation," by Hon. Gideon Wells, late Secretary of the Navy; "The Planett Mars," by Captain Raymond of the United States Corps of Engineers, who was one of the transit of Venus expedition; an article by Captain E. Simpson, United States Navy, "On Modern Naval Warfare"; a striking story by Tourgeneff. The above articles, with the departments, make up a brilliant number.

After reading one number of *Scribner's Monthly*, we wonder if the next one can be as good, and the decision usually is—as good, or better. The October number contains a paper of unusual interest, entitled "A Yankee Tar and his Friends," and is written by Mrs. M. F. Armstrong. It consists of a sketch of the friendship of Capt. E. E. Morgan, of a New York packet, with many of the English artists and literateurs of the last generation, including Dickens, Thackeray, Turner, Sydney Smith, Doyle, Rogers, Landseer, and many others. Another illustrated paper is a discussion of dress, from an artistic stand-point, and under the title of "Togas and Toggery," by Clarence Cook, author of recent papers on house-furnishing in the same magazine. Nearly forty illustrations are given with this paper, and a dozen more are devoted to Wm. H. Rideing's description of "How New York is Fed," the meat, fruit, fish, and oyster market receiving the chief attention. A biographical sketch of Hjalmar Hjorth Boyesen, by F. E. Heath, is accompanied by a faithful portrait from a crayon sketch by Wyatt Eaton, and Woolf, the caricaturist, has a little poem with a drawing of his own. Dr. Holland's "Nicholas Minturn" is concluded in this number, and will be followed by a serial by Eggleston, "Roxy," to begin in the November number. The other principal articles are a "hetero-orthodox" essay, "Christianity and Free Thought, by George S. Merriam; "Experience in Post Office Appointments," by

an ex-Congressman; and an excellent illustrated article for teachers, "The Polyzoa," by Mrs. Herrick. In the editorial department, Dr. Holland discusses "The Great Strike," and "Regulated Production," and replies to criticism on a former editorial on "Pauperizing the Clergy."

St. Nicholas for October is as imitable as ever, and fitly closes the fourth volume of this magazine. This number is brimful of good reading, not only for children, but those of a larger growth. Henry W. Longfellow supplies some beautiful lines under the title of "Haroun Al Raschid"; and Donald G. Mitchell ("Ik Marvel") contributes the biographies of "Two French Story-Tellers"—Bernardin de St. Pierre and Madame Cottin. The poem, "Mother," by Mary Mapes Dodge, blends a rare hopefulness with the tender sadness of its theme; and together with the admirable frontispiece, forms a striking whole. George MacDonald brings to a close his simple narrative of Scottish life, entitled "Gone Astray." "The Little Girl who Grew Smaller," by Emily H. Leland, is a story that will captivate the young folks; and "Which Had It?" by Sarah Winter Kellogg, with a capital illustration by J. W. Champney, is a tale that has no end of fun and puzzling uncertainty about it. Lucy Larcom introduces the youngsters to the wonder-world of "Autumn Poetry," in a way to set them exploring it on their own accounts. Noah Brooks has a story of patriotism, entitled "A Century Ago," that is full of genuine boy-interest; and William H. Rideing presents a graphic account of adventure in the Sierra Nevada under the title "Caught in the Snow," the paper being illustrated by a picture, into which Thomas Moran has put the very chill and rush of the winter storm. A whole year's series of Star papers is concluded in this issue, by Professor Proctor; and Mr. Park Benjamin, in some admirably humorous verse and sketches, relates the rise, course, and sad ending of "The Revenge of the Little Hippopotamus." The boys will find Mrs. Kate Brownlee Horton's article on the game of "Hare and Hounds" a very attractive one, and the interest of the girls is likely to center upon a paper on "Moss-Pictures," which details a new kind of fancy-work.

Appleton's Journal continues to improve, both in attractiveness of appearance and in the interest and variety of its matter. For October, the table of contents offers a rich intellectual feast. "With Wheeler in the Sierras," by W. H. Rideing, describes with graphic force a number of scenes familiar to California. The article is well illustrated with six familiar looking pictures. A couple of chapters of the fascinating serial, "Cherry Ripe," are given. Julian Hawthorne has a chapter of his interesting character sketches, "Out of London"; an excellent historical essay, "Wise Women of the East," by Mary A. E. Wager-Fisher, will interest the reader; the serial story, "By Celia's Arbor," is continued; "A Night in the Garden" describes a good method of wooing coy slumber, when one lives in the country and has a garden to woo in; the short stories, "The Ribbon of Honor," "Woman's

Love," "Rex Macarthy," the poems, "Possum" —I Can," "Prophecy," "A Song," by John Moran, give a brief outline of the contents of this number.

The first illustrated paper in *Lippincott's Magazine* for October is on "Chester and the Dee," an attractive subject. "Among the Kabyles," also illustrated, is concluded in this number. Mr. Henry James, Jr., has a sparkling article on "Abbeys and Castles," which is in fact a description of English country life. "The Bass of the Potomac" is a capital fishing sketch by William Mackay Laffan. Under the title of "Communism in the United States," Austin Bierbower gives an account of the socialistic communities that exist in different parts of the country. Mrs. Sarah B. Wistar writes of "Alfred De Mussett," analyzing his genius, and recounting the sad story of his brilliant but wasted life. A new serial, "For Percival," is begun in this number, and starts in an entertaining manner. Illustrations are promised in future installments. Mrs. Davis' novel, "A Law unto Herself," deepens in interest; and among the short stories, "Little Lizay," by Mrs. Wister Kellogg, deserves notice as a faithful and pathetic picture of negro life. The poems are by Mrs. S. M. B. Piett, Sidney Lanier, and Maurice Egan; and the "Monthly Gossip" embraces "Notes from Moscow," "An account of the Paris Conservatoire," and other interesting matters.

Praise of the *Popular Science Monthly* grows stale. As Americans, we can only be proud of possessing such a journal, and keep silence. For October, Prof. Ernst Haeckel, the distinguished German naturalist, is the author of the opening article, "Bathybius and the Moners." He shows that these newly-discovered forms are not the dead masses of mineral substance which the opponents of the development theory would have them, but animate beings that without organs perform the functions of life, while occupying a place very close to the line which separates organic from inorganic matter. The second article is by L. R. Curtis, on "Molecular Magnitudes." There are three articles of special interest to teachers—one, by Miss Eliza A. Youmans, is an illustrated article on "Optics." She shows how, with the aid of a few simple contrivances, any one may demonstrate experimentally the principal laws of that science. The next is a forcible plea, by Prof. Huxley, in favor of elementary instruction in physiology in our common schools. Another is a rather satirical article, by Prof. F. W. Clarke, entitled "Specimens of Educational Literature," in which sundry pretentious schools and colleges are made to cut a very amusing figure. The other articles of interest are "Cosmic and Organic Evolution," by Lester F. Ward, A.M.; Pessimism and its Antidote," by Charles Nisbet"; "The Modern Piano-Forte," by S. A. Pearce; "Snoring, and How to Stop It," by John A. Wyeth, M.D., (illustrated); "The Decline of Party Government," by Prof. Goldwin Smith, etc., etc. The "Editor's Table" is, as usual, full of interesting matter.

EXTRACTS FROM LETTERS.

WE have not been remarkably active in sounding our own praises, or in repeating the complimentary things that our friends constantly say of us. We have neglected even (what journalists seldom fail in) to reproduce the commendatory notices of the JOURNAL in our contemporaries. Not the educational press only, but such representative California newspapers as the *Record-Union*, the *West Coast Signal*, the *Alameda Independent*, the *Lakeport Bee*, etc., etc., have spoken in terms of praise and encouragement of our enterprise.

The subjoined letters from prominent educators in various sections of the State, are selected from a large number lately received. More might be given, if our space permitted :

I am exceedingly well pleased with THE PACIFIC SCHOOL AND HOME JOURNAL, and I earnestly wish that every teacher in Oregon would promptly subscribe for it, and carefully read it. It deserves a liberal support and an extensive circulation. These it may rightfully claim, in order to accomplish the noble work had in view.

I shall take pleasure in publicly commending the JOURNAL to the members of our State Teachers' Institute.

L. L. ROWLAND,
State Superintendent Public Instruction,
Oregon.

August 29th, 1877.

The general style and make-up of the JOURNAL pleases me *very much*, and I believe you *rightly* understand what is needed—a periodical that shall reflect the views of our Pacific Coast teachers, and properly represent our educational interests. I feel assured that all live and progressive teachers will lend their hearty support to your undertaking.

J. C. GILSON,
Superintendent-elect Alameda County.

I have carefully read every copy of the SCHOOL AND HOME JOURNAL sent me, and am well pleased with it.

THOS. H. STEEL,
Superintendent Yuba County.

I am much pleased with the JOURNAL, and hope it will be as remunerative to the proprietor as it is beneficial to the profession.

PROF. A. W. OLIVER,
Principal Gilroy Schools.

I am much pleased with the JOURNAL, and wish you God speed with all my heart.

MRS. A. LOVE.

Independence, Inyo County.

I wish you the greatest of success, and will endeavor to contribute my mite toward securing such.

Z. L. KAY.

San Diego.

It is certainly a very good production.

F. S. SANDERS,
Superintendent Sacramento County.

I think the JOURNAL well worthy of patronage, and all that is necessary is to keep it at its present standard, and the teachers generally will subscribe for it.

Wishing all success, I am, very respectfully,
P. J. CARMICHAEL,
Principal High School, Grass Valley.

I hope the JOURNAL is succeeding financially. It deserves success. We certainly need a publication devoted to popular education, and you are supplying the need.

L. WALLACE,
Supt. of Lake County.

SAN ANDREAS, Aug. 29, 1877.

DEAR SIR : I have read the SCHOOL AND HOME JOURNAL since its first issue, and am greatly pleased with it. Yours,

C. R. BEAL,
Supt. Calaveras County.

The JOURNAL's path is still upward and onward. I hear good words about it from all who see it. I sincerely wish, what I firmly believe it will have, *complete success*.

A. H. McDONALD,
Principal Sacramento Grammar School.

BOYS' AND GIRLS' DEPARTMENT.

Edited by Mrs. L. A. K. Clappe.

How can the Noon Recess be made to pass Profitably and Pleasantly?

To teachers in the country this question solves itself; or rather, the school children solve it for them completely to their own satisfaction, at least. With the teachers in the large city schools the case is different. On account of the value of land the school yards are generally very small, entirely too small to permit play, or even general freedom of motion. What can be done?

Boys and girls should play—the greater portion of the noon recess is for no other purpose. To walk aimlessly about, with nothing to do but talk, is calculated to foster every species of mischief. "Idle-ness is the parent of every vice," and the long noon recess affords too good an opportunity, for those whose tastes are already depraved, to leaven a whole school.

Can not some teacher point out a remedy? What games can be devised, what amusements invented, by which the super-

vising teacher can preserve the moral and physical health of a large school ward of active children?

Will teachers who have observed this growing evil, and who have devised some remedy, make it known through our columns?

SNOWFLAKE: A DIALOGUE.

[CONCLUDED.]

WRITTEN BY EMMA WARD, NELLIE BRACKETT,
AND LIZZIE SHORT, PUPILS OF THE
DENMAN SCHO^{OL}.

CHARACTERS

SNOWFLAKE	-	Princess of Wonderland.
QUEEN	-	Her cruel stepmother.
FROSTFERN	-	Prince of Trebizond.
RUDOLPH	-	A hunter.
CARL	-	A page.
SEVEN PYGMIES.		

Snowflake.—I must hasten and prepare dinner for my my funny little masters. They are so good to me. And, O, how much lovelier it is here in the forest than it is in the court. [Hears a knock, and looks from window.] O, what shall I do? I forgot to fasten the door, and there is one of the witches of whom the pygmies warned me.

[Queen enters, disguised. Snowflake, frightened, shrinks from her.]

Queen.—What makes you run away from me, you little simpleton? Are you afraid? Why, I love pretty girls like you. Seeing your sweet face at the window, I said to myself, "That dear child would like one of my apples, I know." See, are they not lovely?

Snowflake.—O, how nice they look! May I have one? Which shall I take?

Queen.—I think this is the best; it is such a lovely crimson.

Snowflake.—O, thank you, kind lady! How delicious it smells! I wonder if it tastes as nice. [Takes a bite, and falls, senseless, to the ground.]

Queen. (clapping her hands.)—Now I am indeed avenged! Three times I have been baffled; but this last attempt to take the life of my hated step-daughter has succeeded. I first tried to kill her with a

tight bodice. A meddlesome waiting-woman cut the strings. A poisoned comb fell from her head before its fatal work was done. The treacherous hunter deceived me, and saved her miserable life. But now she is indeed dead. She has swallowed the poisoned apple, and for that there is no antidote. Lie there, little fool, till your friends, the pygmies, come to bury you.

[Exit.]

[Enter pygmies, chanting, as they march round the lifeless form of Snowflake.]

Pygmies.—

Delve and dig, delve and dig,
All day, pygmies, little and big.

All together.—Alas! what has happened to Snowflake?

Second Pygmy. (kneeling and taking her hand.)—Ah, brothers, what a sad sight! Snowflake, our pretty little Snowflake, is dead.

Third Pygmy.—Alas! has our poor, innocent, loving pet gone away from us forever?

Second Pygmy.—Indeed, brother, it is too true. Lay your hand on her heart, and feel how still it is.

Fourth Pygmy.—We must not shut her up in a box, and put her in the dark, cold ground; but place her in an open casket, under a mossy tree, and one of us shall watch each day, and never, never leave her alone.

Fifth Pygmy.—Yes, yes, that is right; and I will be the first to watch beside her.

Sixth Pygmy.—Now, brother, what's the use of talking? When I say a thing, you all know I mean it; and I have made up my mind to remain with her to-day.

Seventh Pygmy.—No, you shall not. I am going to stay with her myself, you better believe.

First Pygmy.—Please to recollect, brothers, that it was I whom she always liked the best.

All the pygmies.—You! Ha! ha! ha! When your gruff voice always frightened the poor child half out of her senses.

First Pygmy.—Listen to me, pygmies. We need not quarrel over dear little Snowflake any longer. Let us place seven bits of paper, upon one of which shall be written the word "stay," in a box, and he who draws the lucky slip shall be the first to remain and watch beside her.

[They place papers in a box, and draw.]

First Pygmy.—Hurrah! the lucky paper is mine!

Second Pygmy.—You've cheated, brother; I know you have.

First Pygmy.—No, I have not, I tell you.

Second Pygmy.—O, fie! brother, that's a big story, that is.

First Pygmy.—Come here, sir. I'll teach you who is master in this house. [Boxes his ears.] There, take that.

[*Third Pygmy giggles.*]

You, Bill, come here.

Third Pygmy.—I don't see it, elder brother.

Fourth Pygmy.—You'd better go; don't you think so, Bill?

First Pygmy.—Here, you Tom, I have a quiet word to say to you, my lad.

Fifth Pygmy.—It'll be a word and a blow, and the blow'll come first, I'm thinking.

First Pygmy. (stamping angrily.)—Go to your work, all of you. We have had talk enough on the subject.

[*Pygmies go out chanting, Delve and dig, etc.* *First Pygmy remains. Enter Prince.*]

Prince.—Ah! what a beautiful creature! Is she of marble, or snow? Give her to me, pygmy; for she is already dearer than any live maiden I ever saw.

First Pygmy.—Give her to you, indeed! Well you are cool, I must say. What will you pay me for the lovely child?

Prince.—A thousand crowns; ten thousand; a hundred thousand; what you will.

First Pygmy.—Ten thousand will do. Take her, Prince; she is yours. Pygmies, come this way.

[*Enter pygmies, with a flower-wreathed bier.*]

Prince.—I have bought this beautiful dead girl of your elder brother. She was a king's daughter, and should have a princely sepulchre. Much as you pygmies love her, you cannot give to her beautiful remains a fitting monument. Convey her to my tent, and I will reward you for the act.

[*As the pygmies raise the head of Snowflake, the poisoned apple flies from her throat, and she revives.*]

Snowflake.—O, what has happened to me? Where am I? and who is this graceful stranger who looks so kindly at me?

Prince.—I am Prince Frostfern. I

came from Trebizond to win you for my bride. But your step-mother told me that you were dead. On my sorrowful way back to my own kingdom, I found you, lying lifeless, in the house of the dwarfs. I purchased you of them; and, as they raised you to take you to my tent, you returned to life.

Snowflake.—Ah! now I remember all. My step-mother, in the disguise of an old woman, gave me a poisoned apple. I recognized her as I fell.

Prince.—You can surely never wish to be again in her power. Will you be my wife, beautiful Snowflake?

Snowflake.—Yes, dear Prince, for have you not saved my life? Yonder is the chapel where my father and mother were married. There we will be united also.

Prince.—Attendant, bring the bridal crown and veil.

[*They are brought, and the prince places them upon the head of the bride. They go out, followed by the Pygmies chanting.*]

Pygmy.—

King and Queen, King and Queen!
Frostfern and Snowflake are, I ween!

[*Queen's chamber. Enter Queen.*]

Queen.—O, joy! joy! joy! I am at last indeed the most beautiful woman in the world! Ah! what delight to hear those lovely words, again and again! Come, little mirror, repeat to me once more the enrapturing sounds which proclaim to all the world my peerless loveliness—

Mirror! mirror! that I hold in my hand,
Who is the fairest in all land?

(*Voice outside.*)—

Thou wert the fairest, O, lady queen,
But the bride of the prince is now fairest, I ween.

Queen.—Ah! what dreadful words are these I hear? Have I committed murder only to be mocked at last?

[*Enter page.*]

Page.—Madam, the Prince of Trebizond and his bride request an audience of your majesty.

Queen.—The request is granted.

[*Exit page.*]

Now we shall see this arrogant fair one who dares dispute with us the palm of loveliness.

[*Re-enter page.*]

Page.—The Prince and Princess of Trebizond!

[*Enter Prince and Princess.*]

Queen.—Who is this insolent woman who claims a fairer face than ours? Lift up her veil, that we may see her boast confirmed.

[*Prince raises the veil of the bride.*]

Snowflake! what means this mystery?

Prince.—It means, O, wicked queen! that your crimes have been discovered and baffled; that your people have rebelled, and that your power is forever at an end. Guards, away with her to prison, and let her be closely watched.

[*Attendants lead off the Queen.*]

And now, my princess, let us join the banquet which awaits us in the grand hall of the palace.

Princess.—Yes, dear prince, and the highest seats shall be given to the dear pygmies, who saved the life of your Snowflake.

[*The pygmies who had entered with the bridal pair marched out after them chanting:*]

Drink the wine! drink the wine!
All day, pygmies, little and fine;
For never again will Snowflake fold
Our tiny beds in the forest old!
Across the waters she'll sail away,
While we pygmies delve and dig all day
But we'll never forget the maiden dear,
Who lived with us once, in the forest dream!

HARE AND HOUNDS.

The game is played chiefly by schoolboys from ten to sixteen years old, though often boys who do not belong to the school are members of the "hunt," and very often, too, the little fellows are the best runners of the party.

The boys divide themselves into two parties, each having its "champion runner," and lots are drawn as to which of these runners shall be the "hare" in the first hunt of the season, afterward they go by turn.

The rest of the boys are the "hounds," and the other champion is the huntsman who marshals them to the "meet" (which is usually the school play-ground), gives the signal for the start, calls them off by a shrill whistle when they get on the wrong scent, and, in fact, is "master of the hounds," *par excellence.*"

The "hare" is provided with a small, open satchel or pouch, slung across his shoulder, and filled with bits of white paper about an inch square—heavy paper that the wind will not carry away. It is

the privilege of the small boys who are too little to take part in the hunt to prepare these bits of paper, and for a day or two before a "run" they have great fun in preparing "scent," as they call it.

The hare is also allowed five minutes "head start," and is allowed to choose his own course, but is obliged to scatter the bits of white paper at short intervals all along the way he goes, as they are his tracks for the hounds to follow. The five minutes given him he usually spends in seeking for some obscure place at which he leaves a little package of yellow or blue paper to denote the starting-point.

This may be some blocks away, or up a side street, or just around the corner; he has his choice, and a free opportunity to seek it, as the "hounds" go within doors till the five minutes are up. Then the huntsman cries "Whoop! halloo!" and away they all bound hither and thither, seeking till they find the package of colored paper (which they are obliged to do before they can start). The finder must cry, "Hark! forward!" then off they go, on the scent.

Sometimes so long a time is taken up in finding the starting-point that the hare makes famous headway, and can "double" on his followers; that is, retrace his way for a block or two on the other side of the street (leaving the bits of paper all along, of course), go round a block, or, if they are in the country, he probably makes for the woods, goes in some distance, then turns back, perhaps, till he finds some leafy tree, up which he climbs and hides himself till the "hounds" have gone by, anything to put them off the track.

When the hare has gone far enough, and wishes to return, especial care must be taken, as, if he is seen, the hounds can rush after him, "cross lots," and woe betide him if he is caught! He is no longer champion, but has to give up his badge to the fortunate "catcher," and cannot even be one of the hounds till he has paid a certain forfeit demanded by rule—usually something good to eat.

If the hare gets successfully home to the playground, the opposite party has to "stand treat," so you may imagine how hard each side strives to win. It is a capital game when really played according to rules, and English boys think the rules half the sport. It has been played for sev-

eral generations—an old game—not only in England, but wherever English boys have gone, or English games are known.

EVIL OF GREAT ESTATES.

[Extract from an Oration delivered July 4th, 1877.]

BY HENRY GEORGE.

Wealth in itself is a good, not an evil; but wealth concentrated in the hands of a few, corrupts on one side and degrades on the other. No chain is stronger than its weakest link, and the ultimate condition of any people must be the condition of its lowest class. If the low are not brought up, the high must be brought down. In the long run, no nation can be freer than its most oppressed, richer than its poorest, wiser than its most ignorant. This is the fiat of the eternal justice that rules the world. It stands forth on every page of history. It is what the Sphinx says to us as she sitteth in desert sand, while the winged bulls of Nineveh bear her witness! It is written in the undecipherable hieroglyphics of Yucatan; in the brick mounds of Babylon; in the prostrate columns of Persepolis; in the salt-sown plain of Carthage. It speaks to us from the shattered relics of Grecian art; from the mighty ruins of the Coliseum! Down through the centuries comes a warning voice from the great Republic of the ancient world to the great Republic of the new. In four Latin words Pliny sums up the genesis of the causes that ate out the heart of the mightiest power that the world ever saw, and overwhelmed a widespread civilization: "Great estates ruined Italy!"

Let us heed the warning by laying the foundations of the Republic upon the work of the equal, inalienable rights of all. So shall dangers disappear, and forces that now threaten turn to work our bidding; so shall wealth increase, and knowledge grow, and vice, and crime, and misery vanish away.

MR. JOHN RAYMOND, of New Canaan, Connecticut, is over ninety-five years old, and the oldest inhabitant of that town. He was a tutor in his younger days, and had William H. Seward for a pupil.—*Harper's Bazar.*

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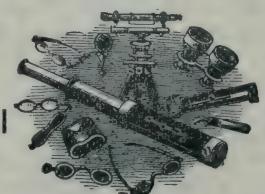
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THE PACIFIC SCHOOL AND HOME JOURNAL.

VOL. I.

SAN FRANCISCO, NOVEMBER, 1877.

No. 9.

WHAT SHOULD BE EXPECTED OF OUR PUBLIC SCHOOLS?

BY VOLNEY RATTAN.

More than a majority of mankind are useful to themselves and to their neighbors in proportion to their skill in the use of hand and eye in manufacturing and producing. A practical education, therefore —nay, more, *any good system of education must include a knowledge of how to do*. Had the brain work of all, who were ignorant of art, perished with them, the world would have been wiser and happier to-day. Man's desire to make labor less irksome and more productive, has led to labor-saving machinery. Laziness and a vague notion that educated people do not have to work for a living, has led to the lop-sided education that curses the graduate who, too late, learns that he cannot live by his wits. Indolence causes parents to talk of labor as a curse. "My trade

has led me a dog's life;" "Work never made a man rich;" "Luck and sharpness win"—and like bits of wisdom are pondered by the boy who, under their influence, becomes a hoodlum. Graduates with heads full of knowledge, but with minds as ignorant of its use as their hands are wanting in skill; and hoodlums who believe they have a mortgage on the world for a living, are held up by the censors of our public school system as examples of what modern education is making of "our boys." Disgust at such results leads a critic to say, "Our common school system is a stupendous sham and a swindle;" "the children of our masses are over-educated; they are stuffed beyond the positions that they are likely to enjoy." "We do not believe in educating a child beyond its sphere in life." He evidently feels, however, that a little education is necessary, and draws the line at "the rudiments of the English language." Another writer thinks knowledge dangerous when it runs

to invention, since machines throw people out of work. He, too, probably draws a line somewhere. Possibly at the implements of the Stone Age. These critics—editors of prominent newspapers in this city—would forbid carpenters erecting any more houses, since some are not habitable on account of smoky chimneys. Better call the masons to account. The carpentry is all right. The children of this generation are educated by at least two instructors—the parent and the teacher. The parent's work, like that of the chimney builder, is not noticeable if well done, but if not done at all, or poorly done, everybody cries, "bad education;" and the schoolmaster, or the system he works under, is blamed.

At present parents claim the right to give, or, at least, to superintend the technical and moral training of their children. The teacher's work can only supplement that of the parent. Our public schools cannot of themselves give a good practical education; nor do I think it desirable that they should. Now, at least, the people would not permit them to have the power. The very parents whose home training is the most defective, protest—"We do not send our children to school to hear moral sermons; we can find plenty of work for them to do at home; we want our children to be put to their books in school." We should expect of our public schools, then, only such mental and physical drill as will best fit into and make useful the technical and moral training of parents. This work is not limited to imparting any particular kinds of knowledge supposed to have special practical value; yet in all our free schools, from the primary to the university, the teachers are giving a good practical mental training. The system is far from perfect, and in time will be made much better; but I contend that it has few faulty methods, and that those should be amended as experience directs, rather than displaced

by untried methods that may prove as faulty. Reformers are too often iconoclasts, who forget that some images are worth more than their fragments. It must be remembered, too, that there is no such thing as over-education. The poor boy or girl who has only a modicum of talent, and whose place is in the lowest sphere, can find profit in standing at the foot of the class through the entire course from lowest to highest. But if the boy's genius lies in shoveling dirt, or the girl's in washing dishes, let them keep the artisan skill required for these occupations well in hand. The breaker of stones on the street, as well as the judge on the bench, has need of all the culture our schools can afford. The cabbage as well as the lily has need of all that soil and cloud and sun can give.

I believe that most of the children who have been long in our schools, are doing more and better than their parents did. I believe the majority of educational failures are due to parents, not teachers. I believe our schools are doing all that can reasonably be expected. Our educational edifice is building well. Will the parents see that the chimneys draw upward instead of downward?

GREEK LITERATURE.

BY EUGENE LAWRENCE.

GREEK POETRY.—HOMER.

ABOUT 850 B. C.

From Greece the study and imitation of Homer were introduced early into Rome. Ennius translated the Homeric verse into Latin poetry, and fancied himself a Latin Homer. Virgil, two hundred years later, borrowed his subject, characters, even whole passages of fine poetry, from his blind master. Every Roman scholar read Homer in the original. In every school, from Londinium and Eboracum to the academies of Athens and Alexandria, the wrath of Achilles and the wanderings of

Ulysses were told in splendid verse, and formed a part of every education. The rude and savage characters of the Ionic bard can not have had a civilizing influence upon the morals of the young. They served, no doubt, to stimulate the cruel passions of Alexander, Pyrrhus, Hannibal, Cæsar; but the intellectual advance produced by the study of Homeric poems helped to soften savage natures, and prepared the path for Christian humanity. Literature was the herald of a higher morality. In the period of the Antonines, throughout the second century, Homer was published, studied, and imitated in every part of the Roman world. No book was ever more widely circulated. At last, after a reign of more than a thousand years, Homer disappears from sight. During the period from 900 to 1400 A.D. the knowledge of Greek literature was almost lost to the Western nations. The Gothic and German scholars were only familiar with the names of the Attic authors, and could seldom read a line of their works in the original. The study of the Greek language, which had once been almost universal in the West, was nearly laid aside. It is not probable that many manuscripts of Homer, Pindar, or the Greek poets existed beyond the walls of Constantinople in the thirteenth century: Dante certainly never saw the works, in the original, of his great master. Petrarch, the finest Latin scholar of the fourteenth century, possessed a copy of Homer which he could not read; and Boccaccio was one of the earliest Italians who learned Greek, and who was anxious to guide his countrymen to the study of the greatest of epic poems.

But at length, with the fall of Constantinople, (1453) and the intellectual revival of the new period, Greek teachers and scholars began to abound in all the Western seats of learning. Rome, Florence, Oxford, and Paris studied with eagerness the almost unknown tongue. Printing was

invented, and, by the aid of the new art, the Greek authors were recovered from their obscurity and diffused over Europe. Aldus, (about 1500) at Venice, produced his wonderful editions of the best writers of Greece, with an excellence of typography that has scarcely been surpassed by later publishers. In 1488, Homer was printed at Florence with great magnificence. The Iliad and the Odyssey became soon familiar to all the people of the West. Their great and various excellences at once gave them the chief place among the most eminent of the productions of the intellect. Homer was once more studied in every school and college. A host of commentators, more enthusiastic, if not more learned than even those of Athens and Alexandria, reviewed and edited his works. The intense energy of German learning has been fixed for two centuries upon the Homeric problem. Wolf has shown, with infinite labor, that no Homer ever existed; Heine has illustrated every part of the Iliad with critical zeal; a recent explorer has visited the plain of Troy, and digging into the seat of an ancient city, fancies that he has reached the court of Priam itself; and Mr. Gladstone's valuable researches into the age and merits of Homer have once more made the name of the Ionic bard familiar to every part of the cultivated world.

Homer's chief beauties and the sources of his influence are the sonorous melody of his verse, the grand simplicity of his language, his rare power of relating an interesting story, the novelty and distinct drawing of his characters, the wonderful fertility of his imagination. His images flow with a rare abundance, and are nearly always the natural reflection of the thought he would define. They are taken from the grandest and the gentlest scenes of nature. The raging clouds that meet in aerial contests, the lion at bay, the angry sea, the rosy light of dawn, the gleaming

dew, the rustling tree-tops that wave before the swift flight of Neptune, the rainbow, the shower, show with what keen attention Homer had studied and loved the natural scene around him. His descriptions are wonderfully exact; and with a burst of exultation the author of *Eothen* relates how he verified on Mount Ida the pictures of his favorite poet. Homer's language is the clearest that can be found, and his verse the model of all later writers.—*A Primer of Greek Literature, Harper's Half-Hour Series.*

PREPARATION FOR THE UNIVERSITY.

BY A. L. MANN.

It is the purpose of this paper to show that the State University should so arrange its requisites for admission as, in general, to make it necessary for every applicant to spend three years in a high school before matriculation in any of its colleges. Our University requires for admission to its classical department a three-years' high school course—setting the same standard as Yale College. But for its literary and scientific colleges preparation may be made in two years, or even in one year. Now, this inequality is detrimental to the cause of higher education in various ways. In the first place, it discriminates strongly and unfairly against classical education; for many boys who have the taste, the talents, and the means to pursue a classical course (and even the most ultra scientific men admit that it is for the advantage of society that *some* should be classically educated, and especially those having a taste for such studies) are tempted, by a premium of one or two years' time, to elect one of the scientific courses. The entering class of the University is thus not homogeneous in its character; for a portion have had three years' careful training in studies second only to mathematics in the rigor of their

discipline, while another portion is raw and mentally unfit to grapple with University subjects and methods. It is the fashion now to decry classics and to exalt science. But the advocates of scientific education can commit no greater folly than to allow shabbily prepared scientific students to compete for college honors or worldly success with well-fitted classical students. Besides, experience teaches us that what pupils need before attacking advanced studies, is much drill in the meaning and use of words. A boy comes to you for help in an arithmetical problem. You will nearly always discover that he does not really comprehend the language of his text book. Another teacher visits your class and asks a few questions. He uses words and constructions slightly different from your own, and your class is bewildered into silence. It is reasonable that this should be so. Out of the 100,000 words that may be used, and for scientific precision must be used by university books and instructors, but few hundreds belong to the vocabulary of the fire-side and the ball-ground, and so are truly held in possession by the youthful mind. The English of his books and teachers is all Greek to the uncultured boy, and more misleading, for it is apparently intelligible. For these reasons we hold that either the three years in Latin and Greek of the High School course, or its equivalent, if it can be found in a thorough study of English literature and the modern languages, is an essential prerequisite to even the moderate success of the scientific colleges of the University.

Pres. Elliott has recently said in a teachers' convention that the study of language is a necessary preliminary to the understanding of science. In the German Real Schools, which do not fit for the University like the *Gymnasia*, but whose object is declared to be to prepare young men for business and scientific pursuits, Latin and

French are made prominent in the course of study. The Sheffield scientific school connected with Yale College, requires a knowledge of Latin for admission. Even our own University has found it necessary to do considerable high-school work under the head of Terminology, in order to render its students somewhat less awkward in their use of scientific terms.

In the interest of thorough education, of proper division of labor, and of intelligent classification of the higher grades of public schools, we think that the University should demand in its entrance examinations the same amount of Latin from literary as from classical students ; that it should demand from literary students an equivalent for the Greek demanded of classical students in French, German or English literature ; that of applicants to the scientific colleges it should require an equivalent for Latin and Greek—in Latin, French, German, English literature, elementary Physics and Chemistry, and an increased amount of Algebra and Geometry. And we maintain that this is reasonable, practicable, and for the great and lasting good of higher education in this State.

But, it may be asked, why may not all this work be taken from the high schools and given to the University ? Because the University, if it wishes to become anything more than a rather advanced high school, has no time to devote to such comparatively elementary matters, much less to treat them in the careful and methodical way in which the high school treats them. For, as the aims of the two schools are different, as the material upon which they work is in a different condition, so their modes of procedure are various.

In the high school the ground passed over in a given time is of less extent ; it is more carefully and thoroughly surveyed ; it is more frequently traversed. There is more individual instruction. Attention is

given to the formation of correct habits of study under the immediate supervision of the teacher. In a word, the pupil is treated as a boy while he is still puerile. What a mistake to deprive our youth at the most plastic time of life of one or two years of this most salutary training before they enter upon the severer and manlier exercises of the University ! How painful is the experience of those who, from defective mental habits, are compelled to spend four years of university life in an exhaustive and losing combat with text books, when otherwise they might enjoy in full measure the numberless advantages the University affords in its collections, libraries, lectures, and cultivated men !

Gentlemen advocates of the "new higher education!" You are bringing about a change that is not less than a revolution. You are deposing the ancient languages from a position in the schools which they have held for centuries. You are substituting a new and unproved scheme of mental development for one that has given the world its priests, physicians and lawyers, its poets, statesmen and philosophers for five hundred years. We believe in the transcendent import of the subjects investigated in the "New Education." Equally with you we are filled with trembling hope and awe at the shadow of their magnificent promise. But in using them as the means of intellectual culture we ask you to heed the voice of experience which everywhere proclaims that between the grammar school and the University the *high school* occupies a space that cannot be narrowed without irreparable injury. Do not attempt to initiate the neophyte into the mightier mysteries of the inner temple of Science before he has been prepared by a suitable season of meditation in its outer courts. Require of him who is to make conquests in the field of Knowledge to show the strength and hardiness of preliminary exercise, before you invest him with com-

plete armor, lest manly "helm and harness" overpower him by their weight.

HINTS ON SPELLING.

To know how to spell is chiefly valuable for the purpose of writing. It is of little worth as a means of teaching reading. Says Mr. Calkins in his New Object Lessons, "When taught exclusively from spelling, reading seldom becomes natural, and the pupils frequently stumble all the way through school, calling *was*, *saw*; *on*, *no*, and making many similar mistakes. Spelling should be learned through reading, not reading through spelling. Reading words naturally precedes spelling words. To teach reading chiefly by spelling belongs to the A B C method. Spelling should not be introduced until the children's eyes have become accustomed to distinguishing the forms of simple words as wholes. Spelling deals with the elementary forms of words, not with their sounds as spoken. The first lessons in spelling, given while the children are learning to read familiar words, should be conducted by printing words on the black-board, and taught by *sight* instead of *hearing*."

The pupils should be taught to spell by printing words on their slates, copying them from the black-board at first, subsequently from books. So soon as they can write let spelling be taught by writing words on their slates. This should be the chief mode of teaching spelling. However, oral spelling may be employed as a valuable means of teaching written spelling successfully, thus causing two senses—sight and hearing—to take cognizance of the elementary parts of each word, instead of only one, as in the common plan of teaching spelling.

The plan of requiring pupils to pronounce each syllable separately while spelling is one of those customs which long usage has so firmly established that it is difficult to look upon any other mode with-

out prejudice. From a long personal experience, and the results of the experience of others with many thousand children, I believe, that, instead of its being an advantage to treat the several syllables as so many separate words, and then unite them together gradually by repeatedly pronouncing the previous syllables as each successive one is spelled, it is a positive hindrance to progress in oral spelling, and a loss of time.

To spell *perplexity* thus, p-e-r per, p-l-e-x plex, per-plex, i, per-plex-i, t-y ty, perplex-i-ty, seems to be a sort of "House-that-Jack-built" style, which may serve as an occasional amusement for children; yet to continue such repetitions daily, as a part of the process of spelling is a needless *perplexity* to pupils, and a great hindrance to their progress in learning to spell. Every requirement that diverts the attention of the pupils from the order and arrangement of the letters that form the word retards rather than aids in learning to spell the word.

The following method has been thoroughly tested and found to be entirely satisfactory for oral spelling: A word is pronounced by the teacher; the pupil repeats the pronunciation distinctly, then spells it speaking each letter plainly, and making a pause between each syllable, then finishes by pronouncing the whole word, thus: *Teacher*, Commandment. *Pupil*, Command-ment; c-o-m m-a-n-d m-e-n-t, commandment. Care should be taken to secure the pause between the syllables, and the speaking of each letter distinctly.

The late spelling contests were healthy, innocent and amusing. Old and young learned to spell with astonishing ease, for the mind grasps readily and retains tenaciously when excited. This fact can be advantageously employed by teachers in permitting matches in their rooms, say once a quarter in the recitation of dates, localities,

etc.; as well as in the spelling of words. These contests should, however, never be considered as fair or certain tests of orthographic scholarship. He who wins to-day may lose to-morrow. Let the same contestants *write* the three hundred words, and then pass papers, correct and compare notes, and the result would probably be very different; it would certainly show more exactly their real knowledge.

Good spelling is in part an inherited gift. It is the result of a peculiar power of memory. A scholar of good, sound mind, fine reasoning powers, an excellent speaker, with a wide-awake, intelligent brain, may be so weak in spelling capacity as to miss, after considerable study, eighteen words out of twenty. Such a case has recently come to my knowledge. No amount of study will ever make a good speller of such a person. He must go through life yoked to a dictionary. Let teachers who can spell every word in the language be patient with all such cases. Away with the spelling-book gauge of a man's ability! This we say without detracting one iota from the importance of good orthography.

It has also been most conclusively demonstrated, and we record it with pleasurable pride, that amid all the excitement of the *new* studies, viz.: Music, Drawing, Sewing, English History, Natural Philosophy, and oral lessons in Physiology, Physical Geography, Vocal Culture, Mineralogy, etc., etc., the teachers of the public schools have not neglected this old-fashioned study of Spelling. Creditably as the work has been done, (judging from the numerous matches in which the children have won the prizes) it has cost an immense amount of time and labor, because the text-books still in common use—ancient relics of the past—are so defective.

We believe in making the reader and every other text-book, a speller and definer. Great advantage is also gained by requiring pupils to commence their words when

writing in columns with *small letters*, unless capitals are required. It is wonderful how easily a considerable knowledge of *capitalization* can thus be imparted. If the teacher habitually deducts merits from the value of every paper examined because words have been misspelled, the scholars soon become extremely careful.

In addition to these different methods, however, pupil and teacher feel the need of an "improved speller," one especially adapted to interest and help the younger scholars, and the one-talented learners of greater age. Most of our spelling-book makers have arranged their words according to a wrong classification. They have grouped together words with similar terminations, or those containing some common peculiarity in spelling rather than in pronunciation or meaning, thus assisting the scholar for the time being, to his confusion afterwards. Words in composition never occur in this beautiful regularity.—*Pennsylvania School Journal*.

SNOW-STORM ON MOUNT SHASTA.

BY JOHN MUIR.

It began to declare itself shortly after noon, and I entertained the idea of abandoning my purpose of making a 3 p. m. observation, as agreed on by Captain Rodgers and myself, and at once make a push down to our safe camp in the timber. Jerome peered at short intervals over the jagged ridge on which we stood, making anxious gestures in the rough wind, and becoming more and more emphatic in his remarks upon the weather, declaring that if we did not make a speedy escape we should be compelled to pass the night on the summit. Anxiety, however, to complete my observations fixed me to the ridge. No inexperienced person was depending upon me, and I told Jerome that

we two mountaineers could break down through any storm likely to fall.

A few minutes after 3 p. m. we began to force our way down the eastern ridge, past the group of hissing fumaroles. The storm at once became inconceivably violent, with scarce a preliminary scowl. The thermometer fell twenty-two degrees, and soon sank below zero. Hail gave place to snow, and darkness came on like night. The wind, rising to the highest pitch of violence, boomed and surged like breakers on a rocky coast. The lightnings flashed amid the desolate crags in terrible accord, their tremendous muffled detonations unrelieved by a single echo, and seeming to come thudding passionately forth from out the very heart of the storm.

Could we have begun at once to descend the snow-filled grooves leading to the timber, we might have made good our escape, however dark or violent the storm. As it was, we had first to make our way along a dangerous snow ridge nearly a mile and a half in length, flanked by steep ice slopes on one side, and by shattered precipices on the other. Fortunately I had taken the precaution ere the storm began, while apprehensive of this very darkness, to make the most dangerous points clear to my mind and to mark their relations with reference to the direction of the wind. When, therefore, the storm broke, I felt confident we could urge our way through the darkness and uproar with no other guidance. After passing the "Hot Springs," I halted in the shelter of a lava block to let Jerome, who had fallen a little behind, come up. Here he opened a council, in which, amid circumstances sufficiently exciting, but without evincing any bewilderment, he maintained, in opposition to my views, that it was impossible to proceed; the ridge was too dangerous, the snow was blinding, and the frost too intense to be borne; and finally, that, even supposing it possible for us to grope our way through the darkness, the

wind was sufficiently violent to hurl us bodily over the cliffs, and that our only hope was in wearing away the afternoon and night among the fumaroles, where we should at least avoid freezing.

I urged that the wind was chiefly at our backs, and that, once arrived at the western edge of the cone, we had but to slide or wallow down steep inclines whose topographical leadings would insure our finding camp in any case, and that if need be we could creep along the more dangerous portions of the ridge, and clear the ice and precipices on hands and feet. He positively refused, however, to entertain any thought of venturing into the storm in that direction, while I, aware of the real dangers that would beset our efforts, and conscious of being the cause of his being thus imperiled, decided not to leave him.

Our discussions ended, Jerome made a dash from behind the lava block and began forcing his way back some twenty or thirty yards to the Hot Springs against the wind flood, wavering and struggling as if caught in a torrent of water; and, after watching in vain for any flaw in the storm that might be urged as a new argument for attempting the descent, I was compelled to follow. "Here," said Jerome, as we stood shivering in the midst of the hissing, sputtering fumaroles, "we shall be safe from frost." "Yes," said I, "we can lie in this mud and gravel, hot at least on one side; but how shall we protect our lungs from the acid gases? and how, after our clothing is saturated with melting snow, shall we be able to reach camp without freezing, even after the storm is over? We shall have to await the sunshine; and when will it come?"

The patch of volcanic climate to which we committed ourselves has an area of about one-fourth of an acre, but it was only about an eighth of an inch in thickness, because the scalding gas jets were shorn off close to the ground by the oversweeping flood of frost wind.

I was in my shirt sleeves, and in less than half an hour was wet to the skin ; Jerome fortunately had on a close-fitting coat, and his life was more deeply imbedded in flesh than mine. Yet we both trembled and shivered in a weak, nervous way, as much, I suppose, from exhaustion brought on by want of food and sleep as from the sifting of the icy wind through our wet clothing.

The snow fell with unabated lavishness until an hour or two after the coming on of what appeared to be the natural darkness of night. The whole quantity would probably measure about two feet. Up to the time the storm first fell upon the mountain, its development was gentle in the extreme—the deliberate growth of cumulus clouds beneath, the weaving of translucent tissue above, then the roar of the wind, the crash of thunder, and the darkening flight of snow flowers. Its decay was not less sudden—the clouds broke and vanished, not a snow-flake was left in the sky, and the stars shone out with pure and tranquil radiance.

As our experiences were somewhat exceptional during the long strange night that followed, it may perhaps be interesting to record them.

In the early stages of the night, while our sufferings were less severe, I tried to induce Jerome, who is a hunter, to break out in bear stories or Indian adventures to lessen our consciousness of the cold. But although meeting the storm bravely, he was not in a talking condition. Occasionally he would indulge in calculations as to how long the fire of life would burn, whether the storm would last all the night and the next day, and if so, whether Sisson would be able to come to the rescue ere we succumbed to the cold. Then, with a view to cheering myself as well as him, I pictured the morning breaking all cloudless and sunful, assuring him that no storm ever lasted continuously from day to day at this

season of the year ; that out of all this frost and weariness we would yet escape to our friends and homes, and then all that would be left of the trying night would be a clump of unrelated memories he would tell to his children.

We lay flat on our backs, so as to present as little surface as possible to the wind. The mealy snow gathered on our breasts, and I did not rise again to my feet for seventeen hours. We were glad at first to see the snow drifting into the hollows of our clothing, hoping it would serve to deaden the force of the ice wind ; but, though soft at first, it soon froze into a stiff, crusty heap, rather augmenting our novel misery. "Last year," said Jerome, "I guided a minister up here. I wish he were here now to try some prayers. What do you really think, Muir—would they help a fellow in a time like this ?" Yet, after all, he seemed to recognize the unflinching fair play of Nature, and her essential kindness, though making no jot of allowance for ignorance or mistakes. The snow fell on us not a whit more harshly than warm rain on the grass.

The night wind rushed in wild uproar across the shattered cliffs, piercing us through and through, and causing violent convulsive shivering, while those portions of our bodies in contact with the hot lava were being broiled.

When the heat became unendurable, we scraped snow and bits of trachyte beneath us, or shifted from place to place by shoving an inch or two at a time with heels and elbows ; for to stand erect in blank exposure to the wind seemed like certain death.

The acrid incrustations sublimed from the escaping gases frequently gave way, opening new vents, over which we were scalded ; and fearing that if at any time the wind should fall, carbonic acid, which usually forms so considerable a portion of the gaseous exhalations of volcanoes, might

collect in sufficient quantities to cause sleep and death, I warned Jerome against forgetting himself for a single moment, even should his sufferings admit of such a thing. Accordingly, when, during the long dreary watches of the night, we roused suddenly from a state of half consciousness, we called each other excitedly by name, each fearing the other was benumbed or dead.

The ordinary sensations of cold give but faint conceptions of that which comes on after hard exercise, with want of food and sleep, combined with wetness in a high frost wind. Life is then seen to be a mere fire, that now smoulders, now brightens, showing how easily it may be quenched.

The weary hours wore away like a mass of unnumbered and half-forgotten years, in which all our other years and experiences were strangely interblended. Yet the pain we suffered was not of that bitter kind that precludes thought and takes away all capacity for enjoyment. A sort of stupefaction came on at times, in which we fancied we saw dry resinous pine logs suitable for camp fires, just as when, after going days without food, we fancy we see bread.

The extreme beauty of the sky at times beguiled our sense of suffering. Ursa Major, with its thousand home associations, circled in glorious brightness overhead; the mysterious star clouds of the Milky Way arched over with marvelous distinctness, and every planet glowed with long lance rays like lilies within reach. Then imagination, coming suddenly into play, would present the beauties of the warm zone beneath us, mingled with pictures of other lands. With unnatural vividness we saw fine secluded valleys, haunts of the deer and bear, and rich fir woods with their wealth of fern-like branches and orange lichens adorning their tall brown trunks. Then the bitter moaning wind and the drifting snow would break the blissful vision, and our dreary pains would cover us like clouds.

"Muir," Jerome would inquire, with pitiful faintness, "are you suffering much?" "Yes," I would reply, straining to keep my voice brave, "the pains of a Scandinavian hell, at once frozen and burned. But never mind, Jerome; the night will wear away at last, and to-morrow we go a-Maying, and what camp fires we will make, and what sun-baths we will take!"

The frost became more and more intense, and we were covered with frozen snow and icicles, as if we had lain castaway beneath all the storms of Winter. In about thirteen hours day began to dawn, but it was long ere the highest points of the cone were touched by the sun. No clouds were visible from where we lay, yet the morning was dull and blue and bitterly frosty, and never did the sun move so slowly to strip the shadows from the peaks. We watched the pale heatless light stealing toward us down the sparkling snow, but hour after hour passed by without a trace of that warm flushing sunrise splendor we were so eager to welcome. The extinction of life seemed a simple thing after being so gradually drained of vitality, and as the time to make an effort to reach camp drew near, we became concerned to know what quantity of strength remained, and whether it would be sufficient to carry us through the miles of cold wind and snow that lay between us and the timber.

Healthy mountaineers always discover in themselves a reserve of power after great exhaustion. It is a kind of second life only available in emergencies like this, and having proved its existence, I had no great dread that either Jerome or myself would fail, though my left arm was already benumbed and hung powerless.

In our soaked and steamed condition we dared not attempt the descent until the temperature was somewhat mitigated. At length, about 8 o'clock on this rare 1st of May, we rose to our feet, some seventeen hours after lying down, and began to strug-

gle homeward. Our frozen trousers could scarce be made to bend ; we therefore waded the snow with difficulty. The horizontal summit ridge was fortunately wind-swept and nearly bare, so that we were not compelled to lift our feet very high ; and on reaching the long home slopes laden with fresh snow, we made rapid progress sliding and shuffling, our feebleness rather accelerating than diminishing our speed. After making a descent of 3,000 feet, we felt the warm sun on our backs, and at once began to revive ; and at 10 o'clock A. M. we reached camp and were safe. Half an hour afterward we heard Sisson shouting down in the fir woods on his way to the camp with horses to take us to the hotel.

We had been so long without food, we cared but little about eating, but eagerly drank the hot coffee prepared by Sisson. Thawing our frozen toes was a painful task, but no permanent harm was done.

We learned from Sisson that when our terrific storm was in progress, only a calm, mild-looking cloud cap was observed on the mountain, that excited no solicitude for our safety. We estimated the snow-fall on the summit at two feet or more ; at camp, some 5,000 feet lower, we found only three inches, while down on the sloping base only a light shower had fallen, sufficient to freshen the grass.

We were soon mounted, and on our way down into the thick sunshine—to "God's country," as Sisson calls the chaparral zone. In two hours' ride the last snow bank was left behind. Violets appeared along the edges of the trail, and the chaparral was coming into bloom, with young lilies and larkspurs in rich profusion. How beautiful seemed the golden sunbeams streaming through the woods, and warming the brown furrowed boles of the cedar and pine. The birds observed us as we passed, and we felt like speaking to every flower !

At 4 o'clock in the afternoon we reached

Strawberry Valley, and went to bed. Next morning we seemed to have risen from the dead. My bed-room was flooded with living sunshine, and from the window I saw the great white Shasta cone wearing its clouds and forests, and holding them loftily in the sky. How fresh and sunful and new-born our beautiful world appeared ! Sisson's children came in with wild flowers and covered my bed, and the sufferings of our long freezing storm period on the mountain-top seemed all a dream.—[*Harper's Magazine*.]

THE AIM OF EDUCATION.

BY CHARLES H. SHINN.

Last Monday morning saw eight million school children, within the limits of this Union, leaving their homes, and beginning the school week. For some the day was happy with careful work and honest play ; some wasted their moments sadly, and marred their future lives ; yet the same sun shone for all, and the same thoughts might have been theirs. Whatever faith we have that the race is advancing must find its proof in these child-faces. Here, slowly developing, are the future poets, historians, toilers, leaders of thought. This is the material of which empire is made ; the essence of achievements yet to be. Here, we put our hands on destiny ; we can feel the keys of the world tremble under our touch.

What is real education for all these children ? What do they most need ? Are our teachers ever wrong ? Do parents ever fail to understand *their* work ? These are questions very close to our daily lives, very near to every home, and, with all humility, I shall try to say a little upon this great subject of education.

The visible fact is that the energies of civilized man are largely devoted to schools and school-work ; let us first inquire by what rights these schools exist. All human

customs have begun in some desire, or need, of man. The savage found that practice improved his markmanship, so he gave his child a mimic bow to train arm and sight. No teacher was needed, for the sense of hunger was a sufficient ally. The time came when strong arm gave way to stronger brain, and the tools of life became complex. Still the savage idea was the basis of training, and education was, as always, a Fitting for Life. Form and method have changed with decaying empires and new society, but to-day, as in every cycle of the ages, men ask the question : "How shall I best fit my children for useful and honored lives?"

We wish to know how to take care of the body and the mind, how to prepare for the duties of citizenship, how to enjoy the gentler amenities of life, and how to live real and healthy lives. Hence the natural question in relation to any branch of knowledge is: "Of what use is it?" When the mathematician explains that the business of the nations is kept by his figures, and the distances of the heavenly bodies are determined by his symbols, we at once admit the claims of his science. When the philologist shows us that histories unwritten are encrystaled in our daily speech, and laws of thought are developed by comparisons of language, we feel the need of philology. But when some lover of heraldry, or grave-stone inscriptions of any kind whatever, begins to prate of the training of memory derived from his pursuit, we have a right to say : "Kind sir, this is a busy and hard-hearted world, in which your gules and black-letter are poor weapons."

Our first step must be to classify the activities which constitute human life. These, named in order of importance, are five : 1st. Those activities which directly minister to self-preservation ; 2d. Those which secure the necessities of life ; 3d. Those that concern the welfare of the family ; 4th. Those which relate to the community, and

the State ; 5th. The varied activities of re-creation and leisure. The knowledge which makes living possible comes first ; the leisure which gives us art, music, poetry comes last.

The next step is to classify the knowledges which aid life, and these, we shall find, must be either conventional, temporary or permanent. These three divisions are of such importance that they deserve a separate consideration.

Conventional knowledge is that which society has prescribed, and, though without the slightest bearing upon our lives, is of value as preventing unpleasant remarks. Its possession makes the owner neither wiser nor better ; its absence is not heart-ache or emptiness of purse ; it launches no massive ships into the trembling deep, stores no grim arsenals with weapons of defense, points no sleepless, telescopic eye toward the infinities of space. This knowledge, called conventional, is no helper of toiling men.

Many a young lady, whose knowledge is purely tinsel and false ornament, has graduated in white muslin and blue ribbon. A glimmer of relationships of color came to her from costly fabrics. She had a conventional standard of music, art, and society ; everything was either "sweet," "lovely," or "bewitching," or else "horrid." These few results are admitted, but of the strength arising from earnest and practical work—nothing ; of a careful life-plan built upon truth—nothing ; in the place of free thought and high purpose—dim inanity.

Why make an example of the fashionable seminary for young ladies? Because impermissible woman has been the chief sufferer by reason of veneer, gentility, and the sentimental knowledges. We recognize the fact that boys must earn their own living, and so we sprinkle somewhat of practical application upon their college course.

Some day, I hope, we shall believe that

the simple, home-like, and useful accomplishments out-rank the gaudy and conventional. Our children shall learn to read in a sweet, low tone, and shall study the mellow sentences of our noblest writers before they leave the wells of English. They shall be able to spell correctly, write with ease and legibility, and unravel the mysteries of arithmetic, before they attempt the "ologies." Our keynote of education will be to make all children think for themselves. Not alone the bit of truth in the geography lesson, but an ever-growing desire to know more of the earth. Not only the dry outlines of physiology, but the living temple of the human body. Not words as things to be parsed, merely, but as the mute memorials of pre-historic men.

Temporary knowledge relates to that large class of ideas which are subject to change. The climbing of the race is done by crystallizing vague perceptions into laws; when we leave, or re-combine, any group of ideas, we must call them temporary. For instance, abstract arithmetic is one of the things that no law can change, and one is less than three to all eternity; but if we use measures of our own making, it may very well happen that one dollar is much more than three shillings, and the value of the dollar itself will vary according to laws of trade and finance. The adoption of the metric system by all business men would make our tables of weights and measures a part of the world's forgotten rubbish; so here we have an example of temporary divisions based upon a cumbrous and irregular plan.

We must remember that the changeless is as the earth itself, the variable as the structures we rear upon it. In the continual flux and flow of thought it is hard to say what will be secure. We only know that we should rejoice when the narrow statement becomes more nearly perfect, or, superseded, drops from view.

Permanent knowledge is that which has been, is, and will be true, under all possible changes—as: that chlorine is a disinfectant; that the product of the sum and difference is equal to the difference of the squares; that bodies are attracted to each other, directly as their masses, and inversely as their distances. The mind feels that truths of this character belong to the universal plan, and rests with faith and joy on their permanence. Since those facts which concern all mankind forever, are of more value than those which concern but a part for a short time only, it follows that the teacher's work must, as much as is possible, have to do with permanent knowledges instead of those temporary, or conventional.

All that gives the body strength, the mind clearness, the soul purity; the lessons of history, the revealings of science, the thoughts of philosophy; all that has to do with humanity, securing better governments and better social institutions, and providing further for the happiness of the race; all that throws any light on the questions of life and the hereafter, are, in their nature, eternal, and must underlie education.

Having classified human activities and knowledges, it now is necessary to ask more definitely of the expected result. Precisely what are teachers trying to do with a universe of facts at their disposal? And what is it that the parents of these eight millions of children desire? To what is this complex educational machinery directed? Not to mere, barren living, or arts of wealth-getting, or polished self-possession, valuable as all these are, but to the Production of Manhood. For every full grown and bearded creature that walks the earth is not in any real sense of the term a man. Manhood means happy self-dominion, and moves with the iron purpose of tested machinery. The lack of every age is in manly men, and womanly women. There

are enough bits of sentiment, stray poems, and living facts, at present afloat, to make the world much better ; but we need the men to make them real. We are tired of narrow, devitalized shams ; we want a fresh, broad-shouldered, deep-centred, quiet man. To produce such men is the problem of education.

An ancient king told the Persian envoy that the youth of his realm were trained to three things—to despise show, to listen well, and to be fearless in battle. Three simple things, yet their practice went far toward manhood. If we substitute "sham" for "show," letting it refer to mental objects as well as physical, and call bravery the courage of maintaining an opinion, we shall have nearly a complete statement.

"Despise sham." This precept implies that there is truth in the world, or else sham, its counterfeit, would not be condemned. To despise sham you must know the real—you must believe that falsehood is moral suicide. Searching through the dust of dead empires, fallen thrones, and perished reputations, you must at last discover that every lie fails by its own utterance, though propped by a million bayonets, and every truth lives, though planted on the bleak rocks by fugitives, or peasants.

"To listen well." The ancient king meant only that youth should be respectful to their elders—the phase may mean that, and much more. For us the universe is full of voices—voices of physiology, measuring brain-motion, and nerve-force; voices in broken words of the infant languages which the wonder-working mind of man made fit for the strains of Homer, and facile for the mirth of Rabelais ; voices of astronomy, describing the flow of countless stars, and measuring the vast distances of moving worlds ; voices of faith and tenderness, which cling about the noble deeds and pure memories of earth. The true training educates every faculty, strengthens

every perception, and reaches a welcoming hand to every new truth.

"To be fearless in battle." Society has evolved, through the utmost labor, and the bitterest experiments, made necessary by a struggle for existence. It cannot be too strongly said that all which men have won from the abyss, has been so won by a continuous battle, old as the earliest life, and varied as universal Nature. Nor, in any sense, is the struggle less, but rather greater : the barriers reared by civilized man against the reign of anarchy are still to be defended ; the forces of ignorance and crime are, as of old, bitter enemies of society. The true education, then, should give every youth the strength of large and healthy convictions, and the habit of mental combativeness, that he may be the bulwark of the State, the pride of the community.

Better, stronger, purer men—here our thoughts cluster, as around the need of the world. Only by a manly result can any system of education be justified ; nor can any State live which fails to train her sons to a healthy manhood. The values of the knowledge we may acquire must be measured in their relations to the activities of life, and the true teacher must study proportion in all his work. He must be the interpreter of all that is highest in humanity, the friend of all that is pure and just, the enemy of all that is cruel and corrupt, lifting those that cluster about his knees to his own breezy level.

AN EDUCATIONAL TRACT FOR THE TIMES.

Prof. S. R. Thompson, who has passed from the Agricultural College and State Normal School, where he proved an able and efficient teacher, to the Superintendency of the State of Nebraska, thus tersely puts the subject of the "Relations of the Common Schools to Industrial Education,"

at the recent meeting of the National Teachers' Association at Louisville :

" Looking at the subject from two standpoints, viz : Education *for* the industries, and Education *in* the industries, he sees the elements common to both are :

1st. Reading of our own language as embodied in written words, and the language of form, embodied in drawing. The language of words, and the graphic language, should be made equally familiar.

2d. The power of giving expression to thought in these two forms, *writing* and *drawing*.

3d. The art of computation for business purposes, and keeping of accounts.

4th. The leading social, moral, and political principles by which the laborer is related to the State, to capital, to other laborers, and the obligations and duties to which these give rise.

5th. The sciences which underlie the industrial process.

The relations of the common school to the working classes are very great, since nearly all laborers are educated in these schools. This being the case, it is obvious that, if the common school studies and methods are especially adapted to any class of people, it ought to be to the working classes.

Our school work is not so well adapted as it ought to be, in the following particulars:

1st. It is too *bookish*. The book is taught instead of the subject ; words instead of ideas ; the relations of words instead of the relations of thoughts and things.

2d. Our courses contain too many things. The multitude of subjects studied preclude the formation of habits of continued work at a single thing.

3d. The studies are dictated by fashion instead of fitness. Book-keeping is more useful than Algebra, for the common people, yet the latter is studied by ten times as

many pupils as the former, because it is the fashion.

4th. The absurdity of modern methods of teaching mental arithmetic by logical solutions is ludicrously pointed out.

5th. Too much cultivation of the *knowing* powers to the exclusion of the *active*. Even a man's intellectual standing ought to be measured by what he can *do*.

Means of reform :

1st. Concentrate the pupil's work upon fewer subjects.

2d. Distinguish between knowledge and skill, and remember that skill comes only by practice.

3d. Test a pupil's knowledge by its practice ; if of grammar, by writing well rather than by parsing.

4th. Separate the useful and necessary parts of arithmetic from those which are curious or disciplinary, and leave the rest for the high school and college.

5th. Composition should largely take the place of grammar, leaving the latter to the high school.

6th. Penmanship should be taught mainly with regard to *plainness* and rapid execution. *Flourishing* should be considered an extra.

7th. The pupil should, as soon as possible, be made to feel that he has mastered some one thing.

8th. The pupil must be made to recognize that culture and discipline are dependent upon *how* a thing is taught. The most perfect clearness and definiteness are indispensable.

9th. Drawing, as a means of cultivating the perception and remembrance of forms and their relations, must be made as familiar as word language.

10th. Reading must be taught as a means of obtaining knowledge, rather than of communicating it ; in other words, to read well and understandingly, and to love reading.

These changes and reforms, carried out judiciously would save a large part of the

years now devoted to the common branches, and leave time for the elements of the natural sciences and other things which every intelligent working man needs to know."

Put the above with President Newell's significant lines, "*THE TRUE THEORY OF a common school programme is that every step shall be the best possible preparation for STEPPING OUT rather than stepping UP,*" and we have an excellent educational tract for the times. C.

HINTS FOR A NEW MANUAL.

BY AGNES M. MANNING.

Of late there have been some efforts to reduce the cumbrous work of our primary schools. We welcome these efforts, for we have been well nigh buried under the drifting sands of the accumulated "trials" of a variety of Boards of Education, aided and assisted by their Superintendents. The teachers of San Francisco, on whom this work devolves, have had little to "say" in the matter. Like the phlegmatic sphinxes of the desert, we have looked afar with calm, hopeless eyes, and could only see more drifting "plans," with a prospect of being covered at last by the *debris* of old manuals.

A brief paper in your last number refers to the work of grammar schools that properly belongs to the high school. Had the writer been interested enough in primary schools to glance at some of their remarkable "Courses of Study," he would have seen a list and array of startling, high sounding learning that would make him think a liberal education was bounded by the fifth grade.

Our systems of examinations in the lower grades have also been remarkable. Standing by a clear little stream, through whose shallow water we could see every brown pebble and mossy tuft at the bottom, we yet gauged with plumb and line its depths

weekly, or monthly, or quarterly, as the case might be. It will hardly be credited, but there are schools where monthly reports of the "percentages" of pupils as low as the eighth grade were sent home to wondering parents. It follows that if such a heap of senseless and useless statistics is compiled in the school-room, that the teacher is wasting valuable time that ought to be spent in instruction. If it is done out of school hours she is defrauding herself of the legitimate recuperation required by her brain-exhausting work.

A new Board of Education and a new Superintendent are generally "new horrors" for teachers. We have become accustomed to the prancings of the old ones' hobbies, but, alas! we reck not of the pacings of the new. With one it is arithmetic, and for two years every child in the Department is working at decimals as if the monetary system of the world was to be regulated by his toil. Then it is language, and forthwith there is a Babel of grammatical terms in little classes that cannot read distinctly easy words in the First Reader. Anon it is oral instruction; and here let me say that this leads to the Slough of Despond that usually mires the teachers and the taught. Local geography is another of the "pet theories," and indeed, the term no longer defines the wide-reaching knowledge required from our lower grades. We have in our Course some ticklish questions on the sun, moon and stars, and as we have pretty well exhausted these luminaries, I would suggest to the compilers of the new manual that the "red planet Mars" has been taking a new departure of late, and showing a different aspect to astronomers. They might include in the sixth grade such questions as: "Where is Huggins' Inlet? Describe Secchi's Continent. Where is Herschel's Strait?" The subject of his lately-discovered moons might be taken up, and *finished* in the fifth grade, whose schedule of study

generally receives the larger part of the talent of an administration.

I remember in one of our examinations we had : "Write a sentence containing the words sterile and desert." This was for a seventh grade ; one bright-eyed little fellow wrote triumphantly, "We had a sterile desert for breakfast!" Again, in oral questions for the same grade : "Name two of the Order of Swimmers." A child answered promptly, "Two sailors." We primary teachers have done our best to cram the contents of a terrestrial globe, the industrial commerce of the world, mineralogy, zoology, botany, physiology, geometry, not to speak of courses of reading, and battalions of elementary sounds, and a system of complicated drawing that would make an old Greek master's hair stand on end, into the brains of our pupils, commencing with those of six years, and most of us have come to the conclusion that we cannot do it. Our manuals have been compiled for a genius. We have vainly tried to drag the rank and file of mediocrity up to their standard. What if we should leave out this genius in future, and let him, like the Goethes, Dantes and Shakspeares, take care of himself ! Let us take the average brain that Heaven sends into the world, and try to develop and strengthen instead of stultifying and bewildering it. Let us confine the work of our primary classes to reading, writing, common sense drawing, addition, subtraction, multiplication and division ; and let us have *time* to properly teach these studies. The grammar and high schools would then have better material, and San Francisco better *brain power* for her upgrowing generation.

D. H. ARMSTRONG, the new United States Senator from Missouri, is a Nova Scotian by birth, and sixty-five years of age. He was a school-teacher in St. Louis for many years.

PRIMARY ARITHMETIC.

Much has been said and written against cramming the minds of children with facts. As a result of this, our primary teachers, in their zeal to seem to explain everything, have required a meaningless form of words to explain what is pure matter of memory. When asked how much money must be paid for one apple at 2 c. and one at 3 c., the pupil is required to go through a fixed form of words and call it analysis. All these primary combinations of numbers are pure matters of memory and no "analysis" should be required. The mind should be stored with a large stock of tables before anything else is attempted in arithmetic, except the rudiments of Notation and Numeration. Our plan is to teach all the tables purely as *abstract numbers*. It is one thing to know a table by sound, but it is quite another thing to know it by sight. We have frequently received scholars who could commence at the first of the multiplication table, and go half-way through it without taking breath, but when required to use the table quietly at the board, they were at sea without chart or compass. The great object in teaching the tables should always be the ability to combine numbers at sight, and until the pupil can do this he has not learned them in a way that will be of any practical use to him.

Our plan of teaching the tables is as follows : We first teach the child to read and write the digits. He has the idea of abstract number long before he is old enough to go to school. He knows that one boy and one boy make two boys, that one apple and one more apple make two apples.

He knows just as well that one thing and one thing of any kind make two *things* as the teacher does. The numbers themselves have become *things* in his mind and he can learn just as easily to combine the abstract numbers as concrete ones. After the child has learned to read and write the

digits with ease and rapidity, we place on the board a lesson like this,

$$1 + \left\{ \begin{array}{l} 2=3 \\ 5=6 \\ 3=4 \\ 1=2 \end{array} \right.$$

explaining the use of the signs. He is required to write this on his slate a great many times. All this is done without moving the lips at all. The class is then called and the teacher looks at the slate to see that the work has been properly copied. She then erases the column of answers, and the class are required to recite in concert, the teacher pointing to the figures in the 2d column, the class adding 1 to each number as she points to it, giving only the result. Thus she points to 3, and they answer in concert, "4." After a short drill in this way she sends the pupils to the board one at a time. The child at the board points to the place where the answer was written, and says the number which represents the sum, the rest of the class meanwhile watching sharply for mistakes.

We continue exercises of this kind till the class can add, *at sight*, 1 to any of the digits. We then write 2 in the place of 1, being careful to always mix the numbers in the 2d column, thus:

$$2 + \left\{ \begin{array}{l} 0= \\ 9= \\ 1= \\ 8= \\ 5= \\ 7= \\ 3= \end{array} \right.$$

We use all the digits in their order, being careful to not take a new one till the class can add at sight the one in use to all of the digits. By the end of the first year they have completely mastered these combinations.

At the beginning of the 2d year we commence a similar drill in subtraction, thus:

$$2 - \left\{ \begin{array}{l} 2=0 \\ 0=2 \\ 1=1 \end{array} \right. \quad 3 - \left\{ \begin{array}{l} 1= \\ 3= \\ 2= \\ 0= \end{array} \right. \quad 9 - \left\{ \begin{array}{l} 2= \\ 0= \\ 9= \\ 5= \\ 8= \\ 6= \\ 4= \\ 7= \\ 3= \end{array} \right.$$

Requiring in all cases that the operation be performed by sight. The drill in Notation and Numeration is carried forward at the same time, so that by the end of the 2d year the pupil can read and write all numbers to 1000. When he has learned to subtract the digits as indicated, we then give similar exercises, carrying the work further, thus :

$$15 + \left\{ \begin{array}{l} 9= \\ 0= \\ 2= \\ 8= \\ 1= \\ 7= \\ 4= \\ 3= \\ 5= \\ 6= \\ 10= \end{array} \right.$$

This is continued till the end of the second year. He has now finished the second reader.

At the commencement of the third year he begins practical addition and the multiplication table. The first half of the year is spent with drills in rapid addition and on the multiplication table through the 6's. This table is taught just as the other two are, by sight, thus :

$$3 \times \left\{ \begin{array}{l} 12= \\ 1= \\ 11= \\ 8= \\ 2= \\ 9= \\ 5= \\ 4= \\ 7= \\ 3= \end{array} \right.$$

The second half of the year is given to subtraction and the completion of the multiplication table.

* By the end of the third year in school, our pupils are able to add and subtract with great rapidity and accuracy. They have learned to read and write numbers to 100,000, and have mastered the multiplication table. The fourth year is given to a most thorough drill on multiplication and division, so that by the end of the fourth year in school our pupils are complete masters of the fundamental rules of arith-

metic. Up to this time no text-book has been used. Our scholars having now mastered all the tables and the fundamental rules, have but little trouble in applying

them. We spend exactly the same amount of time with the text-book, that has been spent in preparation for its use.—*The Iowa Normal Monthly*.

EDITORIAL DEPARTMENT.

The Real Need of Our Free School System.

We are not of the number who believe our schools to be perfection. And though we descry error, and condemn a wilful perversion of facts, we attempt neither to palliate nor deny the *shortcomings* in our present system of free school training.

We believe, with the great majority of practical men in every trade and profession, that many subjects taught afford no fit preparation for the pursuits of more mature life.

Many teachers neglect an important part of their duty in not adequately impressing their pupils with the dignity and worth of mechanical pursuits. So it is not strange that the tendency of our whole school system, from the primary school to the State University, is to make literary men and women—to divert the poor and rich alike from the paths of skilled labor into the ranks of the learned professions.

As long ago as 1871, we criticized the literary cast of our school manuals of instruction; and, in a Sunday evening lecture in the Hall of the Y. M. C. A., of San Francisco, we proposed a simple and effective remedy. We believed then, as now, that our system, *as far as it goes*, is reasonably in accordance with our civiliza-

tion. Our system is good, *what there is of it*; it fails because *incomplete* and *fragmentary*.

Changes may be made in our course of study which will make our teaching more effective, but no material good will ever be accomplished without *additions to our present system*. What is needed is not fewer schools, but more.

With the number of studies in our elementary schools reduced, there will be a saving of time and material which will permit the organization of additional schools, with special courses of study bearing mainly on the industrial arts.

A clear idea of the nature and functions of these schools may be obtained from the description of Prof. S. K. Thompson, of Nebraska, reprinted elsewhere in our columns. The address of President Runkle, of the Massachusetts Institute of Technology, before the National Teachers' Institute, likewise indicates the nature of educational work now fairly before our people. A resolution offered by this representative educator, endorsing these schools, and passed, attests the headway which the cause of practical education has made in the past decade.

To recapitulate: California needs the "cutting out" of a number of useless studies from the course for primary and grammar

schools ; and the establishment of supplementary technical schools in cities and villages, where the course of instruction shall be special and shall be made thorough and *practical* by shops for labor during a portion of each school day.

Normal Schools.

Skilled labor has the advantage of any inferior kind. Generally it is at a premium. This truth is well known to American manufacturers who have been forced to import from Europe their designers, draftsmen and pattern-makers, because we do not produce them. Law, medicine and the counting-room absorb our youth, and technical schools for the advance of the mechanic arts are yet in the future.

This truth applies to teaching quite as well as to art. Skilled labor in the school-room has the advantage. It *should* be at a premium, everywhere. When every citizen thinks as much of his children as he does of blooded stock, or of the business by means of which he hopes to make his fortune, it will command a premium. The skilled teacher is trained in a Normal School—or that is the natural place for their production whatever may be said of the “born teacher,” who does not need training. A Normal School, with its special departments and all proper appointments, and under first-class management is the place to look to for teachers throughout the state, city, or county. Not every teacher from a Normal School proves the best, by any means. But every teacher ought to be a specially trained teacher ; that is, should have passed through a good Normal School, and should offer his services *because* he has the requisite training, and *knows* his business ; and his diploma should show his standing and merit ; then he should stand on his merit, and *know* it and maintain it. Engineers do not ask for positions to run locomotives and steam-vessels on

any grounds but those of MERIT. When we have a TRAINED TEACHER in every school in the State, results will be different from any yet seen. One Normal School cannot supply the demand that this would require. We need more Normal Schools. We need a well-appointed, full-grown Normal School in this city, under the management of a first-class Normal teacher, governed by a Board of Trustees, who understand and appreciate NORMAL TRAINING in its best sense. A school having a proper Normal course of study and not a High School course—a school distinct from, not grafted on to the High School proper—divorced from it—and devoted to its legitimate work. We have the foundation of one ; let it go on to its full height and stately proportions. But this is not sufficient for the State : we need several more located in different sections of the State. One Temple in Jerusalem will not answer the purpose for all Judea in these latter days. We need such a school in the northern part of the State, one in the southern part, and one at Sacramento or Stockton : 300 miles is too far to travel to gain the desired object.

When the school was located in San Francisco, this city supplied more pupils than all the rest of the State. When it was placed in San Jose, Santa Clara County furnished the greater number. Five Normal Schools in this State would, probably, each maintain and graduate as many pupils as the present one does. The leading Eastern States have four or five such schools each—and no lack of pupils when well conducted and doing good Normal work, namely: training teachers to do first-class work. If they do not produce this result they are not fulfilling their mission. It would be well if perhaps the State had a Normal Commission to plan and suggest the proper work, and see that the highest results expected were realized. When these suggestions become realities, trained teachers may be as well worthy a prize, a medal, or

at least "honorable mention," as horses, bulls, sheep, dogs.

We said something of this kind several years ago, but, we spoke into the air. We close with the request, Let us have more Normal Schools.

Support for Retired Teachers.

In the *N. Y. National Teachers' Monthly* there is a communication on this subject, by Prof. Mears, of Hamilton College, and remarks on the same by the editor. The editor says there are 200 teachers at least in New York alone who are suffering from poverty. He lays this subject before the teachers and parents of the State in a strong appeal for help, and thinks their hearts must be adamant if they do not cordially respond.

Prof. Mears' article was read before the State Teachers' Association. It is worth republishing, and placing before the entire country. We are glad the subject is brought forward. It would be a good idea to call for its discussion before the present meeting of our State Association. It is time that teachers—the body most interested—considered this subject. It is time that parents—the party under the greatest obligations—considered it. In Germany, Austria, Belgium, and other countries, the disabled teacher has ever been provided for by pension, and why should our country be behind in so charitable a work? Prof. Mears says: "The public school teacher is a servant of the State. He performs duties surpassing in dignity and importance those of any other public officer. His pay is confessedly, all over the civilized world, grossly inadequate to the services which are demanded of him. It is eminently desirable that these services should be retained, prolonged, and made effective by a constantly enlarging experience. The soldier, who fights the battles and protects the outward life of the nation

by risking his own, all for a mere pittance, is rewarded in his own person and family by a pension. The prospect of such relief aids the soldier and reconciles him in part to the perilous and arduous duties he is called to perform. I am quite sure the idea of a moderate government provision for the old age of the veteran and disabled teacher would be an element of permanence to the profession. . . . I would propose a plan similar to that of the Netherlands, in which the teacher may be said to insure his life or his health with the State, by the payment of a two per cent. tax, the State instead of a stock company becoming guarantee for its return, with such additions as shall be agreed upon."

This, in substance, is the plan suggested. The subject is before the teachers and parents of this State, for their serious consideration and action. It is before the public to be advocated and sustained, or to be sneered at, ridiculed and laughed down. We trust some earnest thought and action will be called out by its announcement.

An Important Notice.

We call the attention of teachers, and through them, of trustees, to the fact that the State Board of Education have placed THE PACIFIC SCHOOL AND HOME JOURNAL on the "State List," thereby authorizing trustees to subscribe for the work for the School Library. The subscription price, of course, comes from the Library Fund. We hope our friends will exert themselves actively to secure us a large list from the libraries. We propose to make constant improvements in the JOURNAL; and shall endeavor to make it of use to pupils as well as teachers. The "Examination Questions" and "Friday Afternoon Exercises" render the JOURNAL an invaluable assistant to every live teacher; and every one belonging to this class will see that the book is in his library.

Teaching Becoming a Profession.

The election of the editor of this journal, by a unanimous vote, to the Secretarship of the State Teachers' Association, we consider not so much a personal compliment as a cordial endorsement of our enterprise. We have devoted some of our most precious moments to the publication of an educational journal, which should be a credit to our profession, a worthy representative of the high educational status of our teachers, and an efficient means of introducing a higher culture and a more systematic training into our Schools.

The encouragement the JOURNAL has received from our teachers, the endorsement by the Convention, and its adoption by the State Board of Education, all alike are gratifying, as they indicate the existence of that *esprit de corps* which shows that here also teaching is rapidly assuming the character of a profession.

THE position of the Protestant clergy of the Pacific States in relation to the public schools, has, until a very recent date, been very tolerant, not to say liberal. But the scales are evidently falling from the eyes of a few reverend gentlemen, and we find them fully in accord with the Catholic priesthood in uncompromising hostility to our system of unsectarian instruction. They denounce our schools because we do not teach arithmetic evangelically, and because the Thirty-nine Articles have no place in the State course. The pastor of one of the largest of the Episcopal churches of San Francisco, advocated, a Sabbath or two ago, a division of the School Fund, and the establishment of all sorts of sectarian schools.

After all, this kind of talk does less harm here than probably anywhere else in the world. Our people are unalterably wedded to our broad and enlightened system of unsectarian education ; and ecclesiasticism

is not powerful enough on this Pacific Slope to make much impression, on devout church-members even, when the school question is touched.

THE text-book question, in some form or other, is constantly coming to the front. Teachers, like other workmen, demand tools to work with, if any real labor is to be taken up and completed. Teaching Grammar, Physics, Physiology, and Natural History without the use of text-books in the hands of the learner, is a mere pretence.

We need text-books, and the best to be obtained for money. Cramming is common enough with books, and good ones at that. At present, with no text-books on the subjects mentioned, it has been reduced to an exact science.

WE acknowledge the receipt of an interesting and valuable article on primary teaching from the pen of Prof. O. S. Ingham, of Healdsburg. The article will appear in our December number. Prof. Ingham, though he has been but a year in California, ranks as one of our foremost educators. To ripe scholarship, he adds a successful experience of many years in Eastern cities in leading positions, as Superintendent and High-school Principal. We consider Prof. Ingham an acquisition to the educational ranks here. There is already an overplus of teachers on this coast, but if the East will send us more like him, we will make room for them all.

Of course our readers thoroughly understand that we are in no way responsible for the opinions expressed in our columns. Our pages are open for the proper discussion of all educational topics, and we propose to give a fair hearing to every side. In this number, for instance, are articles on technical education, diametrically opposed to one another.

What is said in our editorial columns, we are accountable for, and for nothing more.

We had expected to see Prof. A. W. Oliver, of Gilroy, at the State Convention, but were disappointed. Prof. Oliver is one of our foremost educators. His article in our October number has been warmly received and reprinted in a number of our weekly papers.

For the second time within the past four months we have been disappointed in the music we proposed publishing in our pages. We shall take especial pains in the future to be properly served ourselves, and not to disappoint our readers.

OUR thanks are due to J. W. Johnson, of Sacramento County, for an excellent article on primary instruction, which will appear in our next issue.

No matter what the circumstances or surroundings, above all things, avoid being a DONT teacher.

GENERAL NOTES.

THERE are 16 public evening schools and a High School opened in Brooklyn, N. Y.

D. H. ARMSTRONG, the new U. S. Senator from Missouri, was a school-teacher in St. Louis for many years.—*Harper's Weekly*.

MRS. GARLICK, of California, is running for school superintendent, and naturally is looked upon as an unusually strong candidate.—*Harper's Weekly*.

THE Southern members of the Trustees of the Peabody Education Fund did a graceful thing in nominating President Hayes in place of Samuel Watson of Tennessee, deceased. He was unanimously elected.—*The Christian Union*.

CONNECTICUT has one Normal School; Rhode Island has one. Switzerland has twenty-seven.—*N. E. Jour. Education*.

We add, California has but one.

MR. LAYARD, British minister at Constantinople, has obtained from the Sultan leave to make further excavations at Nineveh.

WE have received "First Lessons in Latin," by Elisha Jones, M.A.—Chicago, S. C. Griggs & Co.—which will be noticed in our December number.

THE Railroad Companies agree to take through free all dogs entered for the proposed "Bench" in this city. Teachers in Nevada were not allowed half-fare tickets. Dogs ahead!

THERE is no telling now-a-days where lightning may strike. Gov. Phelps appoints one of our ex-school-teachers United States Senator!—*Am. Jour. of Ed., St. Louis*.

ONE of the papers read before the Social Science meeting in Saratoga, was on the "Opposition in the South to the Free School System," by Gen. F. M. Logan, of Richmond, and the importance of the subject and the prominence of the speaker secured a close attention throughout.

THERE are only 450 square miles of anthracite coal in the whole United States. The Reading Company owns no less than one-third of the whole. Of bituminous coal land there are in America 200,000 square miles, and 8000 square miles in Great Britain.

SEVERAL mica mines have been discovered in Nevada within the past two or three years, but, in consequence of the low price of the mineral in commercial circles, they

have not been worked to any extent. Now the article is in greater demand, particularly by reason of large orders from China, and much activity prevails.—*Harper's Bazar.*

A CURIOUS condition of the atmosphere has been recently experienced at Virginia City, Nevada. The air has been so fully charged with electricity that often persons were startled at receiving unexpected shocks and hearing snapping sounds. Sometimes even in the act of shaking hands a slight shock would be felt.—*Harper's Bazar.*

THE main points in the address of Prof. O. C. Marsh, of Yale College, on the Ancient life in America, were these : History of this continent traced by its organic remains ; America the birthplace of nearly all the large animals ; Order of changes that culminate in the monkey ; Man's arrival from Asia before the present Geological Epoch.

THE movement to open a school under the direction of several prominent ladies and gentlemen of Boston, for teaching girls and women modeling and carving in clay, plaster, and wood, is progressing favorably. Nearly one-half of the necessary sum is already raised, and the plan meets the approval of everyone.—*N. E. Journal of Education.*

IN a very quiet way, and without any preliminary flourish, the University of Pennsylvania, after more matured consideration, has opened the doors of several lecture-rooms to lady students. The subjects selected for instruction are the sciences and history, which will offer the very best opportunities for young ladies to undertake such branches, with the fine equipments of its lecture-rooms and the services of able professors.—*New England Journal of Education.*

We call attention to the advertisement of Mr. H. G. Hanks in this number. He is a practical Assayer and Mineralogist, and has the finest collection of minerals and fossils probably on this coast. The large collection now belonging to the State University was obtained from him, and has been arranged and labeled and placed in cases under his direction. Any institution needing a collection—and every school should have one—cannot do better than to consult him.

Now does the wily bank director find a deficit of ten thousand dollars, and exclaims, "This comes of supporting men in idleness." Ordered that there be a reduction of ten per cent. on the salary of the night watchman.—*Puck.*

This reminds us : Now does the astute expert of some Board of Education find a deficit in the general fund, and forthwith a resolution is hatched, and an edict comes, "Ordered that the salary of the teachers be reduced twenty per cent."

THIRTY students of the Columbia College School of Mines are to have practical instruction in mining coal at Drifton, Pennsylvania, during the summer. The students will be divided into parties of four each, and put in charge of a miner, whose duty it will be to instruct them in the method of extracting the coal. The coal mined by them will be subjected to the same severe examination as that dug by the miners, credit being given only for clean coal. The parties will work for four hours every day with pick and shovel.—*Harper's Weekly.*

WATERBURY, Connecticut, enjoys the proud distinction of "paying its school teachers less than any other town in the State." Rev. Father Lawrence Walsh, a Catholic priest, is a member of the Board of Education, and acting school visitor.

They print their report in the town paper to save expense. The "Father" says that in one of the schools, "the children are packed in like sardines in a box;" and that is another way they save expense. And this in a State whose accumulated school fund is over two millions of dollars, we believe. Verily, Connecticut knows how to save money!

THE destructive fire in the Patent-office at Washington, which occurred a short time since, will cause much trouble to inventors on account of the loss of models, and will be the occasion of a great deal of litigation. The number of models destroyed is about twenty thousand, but as the original drawings of most of these are preserved, they can be replaced. The original copy of the Declaration of Independence, and other articles of historical value, were fortunately saved. The damage to the building was very serious both by fire and water. The aggregate amount of property destroyed is estimated at a million and a half.—*Harper's Bazar*

An important aid to business movements and geographical exploration in Africa will be assured by the construction of a proposed telegraph line from one end of that continent to the other. The total distance to be accomplished from Alexandria to Natal (which itself is at present in communication with Cape Town) is 3660 geographical miles, and of this the distance from Alexandria to Khartoom is shortly to be completed and in operation, and it will soon be extended to Gondokora—a distance of 1565 miles. Again, Natal is in communication with Kimberley, in Griqualand, so that in fact a distance of only 840 miles remains to be bridged by the wires.—*Harper's Weekly*.

At the Royal Observatory in Greenwich, England, a self-registering sun-dial is used

to indicate and record the daily duration of sunshine. Some very curious results are given, which illustrate in a striking manner the difference between the atmospheric conditions of London and New York, especially in the fall and winter months. During the year ending April, 1877, there were, according to this register, only 1,200 hours of sunshine at Greenwich, or a trifle over three and a quarter hours a day. And during the entire month of December there were only six and a half hours of sunshine. So in New York, we have in December many days any one of which would give us more hours of sunshine than the Londoners get during the whole month.—*Exchange*.

MR. LEWIS BROOKS, of Rochester, New York, who died a few days ago, was one of those wealthy bachelor gentlemen, like Girard and Peabody, who are averse to the turbulence and turbidness of political life, but devoted the latter years of their lives to administering upon their own estates and making benefactions to institutions promotive of education. He had, in an anonymous way, given \$120,000 to the University of Virginia, \$10,000 to the Rochester City Hospital, \$10,000 to St. Mary's Hospital, and \$5,000 each to the Rochester Industrial School and Female Charitable Society. In his quiet, unostentatious way he spent his closing years in finding out deserving objects of benevolence and giving to them liberal donations. *Harper's Weekly*.

THE removal of infiltrations of the skin is easily accomplished, according to M. Ungerer, by osmose. He had occasion to prove this lately in having to treat an extensive scald on the hand, which resulted in a large and exceedingly painful swelling without abrasion. Cold-water treatment for twelve hours did not relieve the swelling in the least, and the pain was almost

unbearable when the hand was removed from the water only a few seconds. He therefore made a different experiment, dipping the hand in a saturated salt solution, and the success was surprising. Though the salt solution had not the temperature of ice-water, the pain diminished almost immediately, and in four hours blisters and pain were both entirely gone. The hand next day differed from the other only by a very slight swelling and redness.—*Weekly.*

THE "Old Stone Mill" of Newport is one of the few objects in America the date of whose origin has been lost. It is a cylindrical tower, probably about twenty-five feet high, resting on eight rude columns, and stands within the inclosure of Touro Park, so thickly draped in ivy and woodbine that its gray walls are screened from view. Some antiquaries have asserted that the old mill was built by the Norsemen some time in the eleventh century; but the generally accepted theory is that it was erected by Governor Benedict Arnold. In his will, dated 1677, he speaks of his "stone-built Wind Mill in ye town of Newport." Windmills were necessary to the early settlers, and this one is a remarkable specimen of masonry, upon which time seems to have made no impression, except to increase its firmness. It is one of the "Sights" of Newport, and carefully preserved by the city.—*Bazar.*

It seems that the operation of the compulsory education law, by which the attendance of children upon some school may be enforced, is embarrassed in New York by the fact that there is a large class of children whose parents are too poor to give them food and decent clothing to attend the public school. If those unfortunates attend the schools in the rags that are all they have to wear, they are objectionable to the other children, and themselves suffer too much from mortification to profit by

the advantage. To aid such, a society has been incorporated, named the "Public Schools Aid Society"—office, 17 Bible House. Its special work is to investigate cases of non-attendance of children between eight and fourteen years of age, upon the public schools, and where extreme indigence is the cause, to furnish food and clothing sufficient to enable the child to comply with the law. This society is now organized, and ready to receive and apply the contributions of those who are interested to aid the general object, which certainly is a worthy one.—*Harper's Weekly.*

ARTHUR ST. CLAIR, who died a few days since at Penn Square, Pennsylvania, aged eighty-five, was the grandson of General Arthur St. Clair, of Revolutionary fame. General St. Clair was a native of Scotland, and a grandson of the Earl of Roslyn of that day. He studied medicine under the famous John Hunter, but gave up practice to enter the army, coming to America as an ensign, and serving in the British army under Wolfe at Quebec. Resigning his British commission, he settled in Western Pennsylvania in 1764. His Revolutionary and other services at Trenton, Princeton, and elsewhere are familiar. Just before the adoption of the Constitution he was President of Congress, and was Governor of the famous Northwest Territory from 1787 to 1802. Of his three sons, Arthur St. Clair settled in Ohio, John Murray St. Clair settled in Westmoreland County, Pennsylvania, on the old homestead, and Daniel St. Clair settled in Montgomery County, Pennsylvania. This last was the father of the venerable Arthur St. Clair, just deceased, who was born, resided during life, and died on the same farm in Montgomery County.

FROM *Harper's Bazar* we cull the following, which is calculated to give a false impression in relation to the subject of which

it speaks : " It is said that there is not a library of any importance in California, not even in San Francisco, a city of 300,000 inhabitants. Efforts are being made to introduce a bill at the next session of the Legislature for the establishment of free libraries in cities having not less than 20,000 inhabitants. A California paper suggests to the San Francisco millionaires that here is a good chance for one of them to build himself a monument by establishing a free library."

There are three large libraries in San Francisco : the Mercantile, with about 50,000 volumes ; the Odd Fellows, with 30,000, and the Mechanics' Institute Library, with 28,000. In addition there are at least a dozen smaller collections with from two to twelve thousand volumes each. So far from California being generally destitute of libraries, the contrary is the case. Sacramento, San Jose, Oakland, and many localities ranking as villages only, have libraries accessible to all, embracing a considerable number and variety of books.

THERE are some wide-awake Sunday-school men at work in these days, and their action may furnish a good many suggestions for our daily work. Public school teachers must look to their laurels or they will be taken from them. Dr. Vincent, the engineer of the Chautauque Convention, has not probably a superior as a Superintendent. He enjoys an international reputation. At the last meeting a class of thirty boys was formed for lessons in microscopy, and taught by an enthusiastic lady, who greatly interested them. One little boy carried a box every day to stand on to see the wonders. Dr. Wythe, Superintendent of the grounds, had in complete working order on the grounds a telephone, with a circuit of two miles, and an electric light, in the gleam of which objects half a mile distant could be seen on a dark night. Dr. Strong organized a

polyglot Bible-class, and found persons who could read in thirty languages. The verse read by all was John, iii: 16, and then a deaf-mute read it in the sign-language. Jos. Cook, a highly cultivated scholar and lecturer, trained in the Universities of Europe, styled this convention a University in the highest sense. A hotel is to be built on the grounds before next meeting, with accomodations for 1000 persons. Various college fraternities held reunions there this year. Vassar had twenty representatives.—*S. S. Times.*

In the September and October numbers of the JOURNAL there appeared in the children's department a little drama called "Snowflake." It was written by, or under the supervision, of Mrs. Clapp, who presides over the above department. The scenes were from fairy-life, and greatly pleased the children. At any rate, we know one family which it fairly electrified. If that kind of play is to come often, we shall object to taking the JOURNAL—on the ground that we cannot consent to live in fairy land altogether, as we have been forced to do for many days. "Snowflake" is to be put upon the stage at great expense—of time and labor—and said stage has been built in our basement. All fairy-land has been present for days and days, paying small respect to anything human. We were not aware before that so many pygmies existed in our vicinity. Queens, princes, giants, pucks and all other genii have flitted in and out building that stage,—and the noise was not fairy-like—arranging scenes, and doing a general stage business—stage-mad, in fact. The drop-curtain is something to gaze on. The head scenic artist laid himself out on this unique piece of work. The conception was quite original, though Harper lent much aid, the *Bazar*, *Weekly*, and *Magazine* all being pressed into the service. When on Friday evening that stage is lighted up and those pygmies appear, the "Baldwin" can close up.

THE STATE EDUCATIONAL CONVENTION.

The California State Educational Convention met in Dashaway Hall, San Francisco, Thursday, Oct. 25, at 1 p. m., State Superintendent Ezra S. Carr, President of the State Educational Association, in the chair, John C. Ruddock, Superintendent of Mendocino County, and J. B. Casterlin, Superintendent-Elect of Humboldt County, Secretaries.

Owing to the fact that the Institute was held in mid-term, the attendance of teachers and superintendents was small, not more than 230 names being enrolled, as in attendance.

Among the representative educational men present were Superintendents Duenkal, of Siskiyou; Ruddock, of Mendocino; McMeans, of Sonoma; Childs, of Solano; Rousseau, of Santa Clara; Dunbar, of San Joaquin; Landes, of Sacramento; Lynch, of Alameda; Campbell, of Oakland; Saunders, of Marin. Superintendents-Elect Davis, of Sonoma; Casterlin, of Humboldt; Mann, of San Francisco: and Messrs. Swett, Denman, Leggett, Anderson, O'Connor, Kate Kennedy, Kinne, Senger, and Lyser, of San Francisco; Ingham, Jones, and Dozier, of Sonoma; Kellogg, Johns, Sumner, Bloomer, and Kilpatrick, of Alameda; Towle, of Solano; and others too numerous to mention.

The opening address by State Superintendent Carr, on "Educational Progress," was justly characterized by the press of San Francisco as a masterly production.

We consider it one of the most important educational documents ever given to the people of California.

We have space in this issue for but a few brief extracts.

Dr. Carr said:

The present school population of California, or number of children between the ages of 5 and 17, is 200,067; the number enrolled in the public schools, 135,335,

with an average daily attendance of 89,539. The present number of teachers in the public schools is 3,167; 1,184 men, 1,983 women. The total income for school purposes from all sources during the past year was \$3,612,163.32; the total expenditure, \$2,749,729.46. The valuation of school property is \$5,933,243.64. The total annual expenditure in the United States for public schools, in 1875, was \$81,932,954. The total valuation of school property, \$173,833,545.

In the United States, for a school population numbering, in 1875, over 14,000,000, ten and a half millions of whom were between six and sixteen years of age, and four and a quarter millions actually attending a public school, we had 249,262 teachers.

Superintendent Carr quoted from Gen. Eaton to show that, large as this number is, it is 100,000 less than is required to reach the entire school population, allowing an average of 40 scholars to each teacher; and he made use of the opinion of General Agent Phipps, of the Massachusetts Educational Board, that the ratio of improvement in the qualification of teachers for their work is not equal to that in buildings, appliances, courses of study, etc. The increase of normal schools is regarded by Mr. Carr as one of the most hopeful signs of progress, but he thinks the quality of the education given is still far from satisfactory.

In relation to the objects of our schools Prof. Carr said :

Do our schools aim to confer either the ability or the distinction to earn an honest living, to look upon labor as honorable, to detest vice and crime?

I hold it to be a correct principle, that while the common school does not aim to make farmers or mechanics, but leaves this to special schools, that it is the business of the common schools (which educate the masses of the industrial population) to teach the elements of technical knowledge, both scientific and artistic. And I hold it to be quite as much the duty of the State and Municipal Governments to provide special schools of an industrial character as to support high schools. And I hold

that unless we can put a solid respect for useful labor into our schools, bringing intelligence and moral power into direct relation to the necessary occupations of our people, we can hardly escape the conclusion that our influence as teachers is thrown upon the opposite side of the scale. We may teach by a negation that labor is menial; that it is creditable to live upon the earnings of others; that certain kinds of theft and robbery are in the line of social and political preferment. Let the lack of moral instruction in our schools, the conduct of school boards, the daily pandæmonium on California street, the gambling pools and games which degrade our agricultural fairs and church festivals, each take its share in the responsibility of debauching the children of California. Let the press take its rightful share, and cease to lay the entire burden at the school-room door. But let us purify ourselves of all blame. It is a delusion and a snare to expect a one-sided education to give a complete manhood or womanhood. It is a delusion to expect our taxpayers to keep on paying (aside from the cost of text-books and including interest on school property) \$3,343,553.82 for schools, while jails, asylums, alms-houses and prisons are crowded with the vicious, the incapable, the criminal classes, without asking does public education pay in industrial power, in civic ability, in public and private virtue? If it does not pay, what then? Will more classes, more abstract mathematics, more knowledge of African capes and ancient wars, mend the matter? Let us, for a time at least, take a new departure and direction, give more training and less cramming, impart more knowledge of things necessary to be known, assist the public mind to a clearer conception of the work to be done, and, above all, insist upon a well organized, well paid, intelligent body of professional teachers to do it.

After a short recess, Deputy-Superintendent Jeanne C. Carr read an interesting translation by Miss E. Marwedel, of Dr. Schwab's "Letters on School Workshops and Kindergartens."

Mr. Lyser, editor of the JOURNAL, then presented the following resolutions, which, on motion of Supt. F. M. Campbell, of

Oakland; were made the special order for Saturday at 3 p. m.:

Resolved, That a committee of three be appointed to draft a Constitution and By-laws for a State professional organization of teachers.

Mr. Lyser stated that the object of such an organization would be fourfold:

To hold yearly institutes of the teachers of the State.

To exert an active and beneficial influence on school legislation.

To accumulate a fund for the assistance of superannuated and needy teachers.

Generally, to assist and lead in the educational progress of the State, and more firmly cement the profession of the State.

On motion of Mr. Denman, it was resolved that a committee of five be appointed to consider our State course of study; and it was also decided that a committee of three should be named to select a place of meeting for next year's Convention.

The Convention resumed Friday morning at Dashaway Hall. John Swett, Principal of the Girls' High School, delivered an able address on "Teachers and Teaching." One of the absurdities regarding school matters, he said, is the tendency, when there is a dissatisfaction with the methods or administration of schools, to apply to the Legislature. The way to raise the standard of schools throughout the State and to abolish causes of complaint is to employ only the most competent and experienced teachers. The standard of a school will depend upon the mental development of the community. There can be no good teaching without a previous training in the methods of teaching. The only city in the United States where teaching is regarded as a profession is Boston. There no person can teach unless they have been educated for it. This is the result of the high degree of education of that community.

A general desire was expressed for the publication of the address, which we hope to see gratified.

J. B. McChesney, Principal of the Oakland High School, and Chairman of Committee on "Industrial Education," appointed at the session of the Institute in 1876, presented an elaborate and exceedingly able report, taking strong grounds against in any way engrafting a system of manual labor or industrial education on our common school system.

A discussion ensued on the adoption of this report by the Convention, which consumed a large portion of the day, and was only finally ended with the adjournment of the Institute.

The debate was participated in by all of the more prominent members.

Mr. Leggett offered a series of resolutions embodying the main ideas of the report, which were adopted. The report itself, after further discussion, was adopted by a large majority, though only a small number of the members voted.

In the evening Mrs. Jeanne C. Carr read an address on "Education at the Centennial," which was justly characterized by Mr. Swett, who proposed a vote of thanks as the most graphic and interesting paper he had ever heard read before a Teachers' Convention.

On Saturday morning, Mr. Swett opened the session of the Institute by a pointed and practical address, calling attention to some absurdities of our course of instruction, which, even in Grammar Schools, includes as many as twelve subjects.

The sense of the Convention was entirely with the speaker, and his remarks were warmly endorsed.

The minutes were on motion amended, by recording therein a resolution introduced by Mr. Denman, to the effect that it is the duty of the State to aid and encourage, by endowment and appropriate legislation, the industrial education of the youth of the State.

On motion, a committee of three, consisting of Messrs. Swett, Denman and

Childs, was appointed by the Chair, to report on the subject at the next meeting.

Mr. Swett offered a resolution favoring the introduction of sewing for girls into the primary, grammar, and ungraded country schools taught by women.

An amendment was offered, adding the words, "so far as it may be made available as a means of education, and not as a trade." As thus altered the resolution passed by a vote of 42 to 33, the women, strangely enough, voting, as a rule, in the negative.

The principal paper of the morning session was by President Le Conte, of the University, on "The Importance of Unity in the Methods of Instruction in the Public Schools."

We shall publish extracts from this address at some future time.

At 1:30 P.M., on motion of Mr. T. P. Powers, the following resolution was adopted:

Resolved, That our present State course of study, as applied to country schools, is defective in that it requires too many things to be taught children in the primary grade, that would be better learned and without effort when age shall have matured the child's mind.

Mr. McF. Davis, Ex-President of the San Francisco Board of Education, then delivered an able address upon the proper course of studies in the Boys' High School, claiming that it should not be too much specialized, but be made broader and more general than at present.

Rev. O. P. Fitzgerald spoke at some length, and very ably, upon "The Press as an Educator."

A vote of thanks was tendered the Doctor.

Mr. McChesney offered the following resolution:

That, in the opinion of this Convention, some of the text-books prescribed by law for use in public schools are entirely inadequate to meet the wants for which they are design-

ed, and that we, as school officers and teachers, earnestly desire a change.

Adopted by an immense majority, and without debate.

FREE SCHOOL BOOKS.

Professor Anderson presented the following resolutions :

That two teachers be appointed to act in conjunction with the State Superintendent as a committee to whom shall be referred the advisability of the State furnishing, free of cost, to all pupils in the primary, intermediate and grammar schools such books as may be required in the various branches taught. That, if found desirable, the committee shall report their action to the chairman of the Committee on Education, in each branch of the Legislature, requesting such action as may the better secure the object desired.

As the discussion became very warm, the resolutions were withdrawn.

OFFICERS FOR THE ENSUING YEAR.

The Committee on Organization reported in favor of the following gentlemen as officers for the ensuing year :

President, A. L. Mann; Secretary, Albert Lyser; Treasurer, Joseph Leggett; Executive Committee—J. B. McChesney, Oakland; James Denman, San Francisco; F. M. Campbell, Oakland; S. G. S. Dunbar, Stockton; Mrs. Jeanne C. Carr, Sacramento; A. L. Mann, San Francisco, and A. C. McMeans, Santa Rosa.

The report was unanimously adopted.

KINDERGARTEN SCHOOLS.

A resolution was adopted to the effect that the Convention urge upon the Legislature the organization of a Kindergarten school in connection with the State Normal school at San Jose.

At the evening session, two exceedingly able papers were read, one by Wm. White, Professor of Mathematics in the Boys High-school of San Francisco, on the "Claims of the High-schools to a Support from the State," which refuted, in a logical and scholarly address, the demagogic attacks of a portion of the California Press

on higher education. The other paper by Prof. A. L. Mann, who occupies the chair of Latin and Greek in the High-school, and is City Superintendent-elect, on "Classical and Scientific Studies," was the ablest presentation of the claims of the classics to a leading position in our course of study, that we have ever heard. We do not agree either with Mr. Mann's logic or with its conclusions, but we cannot withhold our commendation of an argument at once so complete and so brilliant. We hope to present it in full at an early day.

On motion of Mr. Swett, it was unanimously,

Resolved, That this Convention hold it to be the duty of all professional teachers in the State to subscribe for and contribute to one or both of the two excellent educational journals of this State—Lyser's monthly, *THE PACIFIC SCHOOL AND HOME JOURNAL* and Fitzgerald's *Weekly Home Newspaper*.

Mr. Casterlin offered the following resolution, which was adopted:

Resolved, That we respectfully invite the attention of the Legislature at its next session to the unequal working of the present system of appropriating school funds, and its oppressive bearing upon the smaller districts of the State.

Mr. Ruddock presented the following resolution:

Resolved, That it is the sense of this Association that the standard for admission to the profession of teaching should be kept on a high, moral and intellectual basis, inasmuch as the condition of our public schools and the good results arising therefrom depend to such a great degree upon the teachers in charge; that we deprecate any attempt to reduce the salaries of school officers and efficient teachers, or to reduce the standard for admission to the profession.

Unanimously adopted.

A vote of thanks was tendered the Chairman, Dr. Carr, for the uniform courtesy, impartiality and patience with which

he had presided over the deliberations of the Convention.

A similar vote was passed in reference to the Secretary and the Assistant Secretary, Messrs. Ruddock and Casterlin.

The newly elected officers were then inducted into their positions.

The Institute then adjourned *sine die*.

ITEMS FROM STATES AND COUNTIES.

WASHINGTON TERRITORY.

A Teachers' Institute lately met in Olympia to consider and revise the School Laws of the Territory, and make recommendations to the Legislature. Half fares to teachers were granted by the N. P. R. R. Co. and by the steamers.

The Academy of Sciences met on the 17th. S. W. Hall presented a paper on the subject of Fish Culture.

A large number of young ladies are candidates for engrossing and enrolling clerks in the Legislature.

A \$1600-school-house is being built in Tumwater. The teacher will be Carrie E. Field, a graduate of the State Normal School of Brockport.

OREGON.

There are 150 students in the State University. There are so many families moving into town to secure school privileges that houses to rent are scarce.

The Teachers' Institute which was called at Eugene City was a failure, owing to lack of attendants.

An earthquake at Portland, October 12th, created a panic in all the schools. Children rushed out *en masse*, as usual. At the North Building they went pell-mell down the stairs, and several were badly bruised. At the Central and High schools similar scenes occurred. At the Harrison school the terror of the pupils was awful. One child's hair is said to have turned white from fear. Windows were broken, and some buildings seemed as if they must fall.

We believe we can show that the school fund has been used corruptly and wastefully. If some

of the actors in this business are not made to suffer the penalties of the law it will be the fault of the law officers and not the innocence of the parties.—*Weekly Oregonian Statesman*.

There are not enough school-rooms in Salem to meet the wants of the children.

STATE OF NEVADA.

The Teachers' State Institute will be held in Carson City on November 12th, and will continue in session five days.

A new school building is being erected in Gold Hill.

Prof. Flint, of one of the Virginia City Grammar-schools, has been holding competitive spelling-schools in that city. A double eagle will be spelled for, shortly.

The Gold Hill schools are attended by 840 pupils. There are but thirteen teachers in this department.

Superintendent Kelly is making a tour through the southern part of the State, visiting schools.

The Virginia City School Board has throttled the Teachers' Institute, called to meet at Carson, by declining to close the schools for that purpose.

The Central Pacific Railroad Co. declined to grant half-fare tickets to teachers intending to attend the State Teachers' Institute. We conclude that Institutes are not in favor in Nevada.

The Young Ladies' Seminary, under charge of Bishop Whitaker, has just closed its first year of work. It is the only Seminary in the State, and has had a struggle, but seems to be on the road to success now.

The law allowing school teachers to take any School Journal they chose to select at the public expense was repealed last winter.

The Dayton school, closed for some time on account of want of funds, is to be re-opened.

Diphtheria is on the increase at an alarming extent among the school children at Gold Hill, and Reno.

CALIFORNIA.

Following is a list of the life diplomas granted by the State Board of Education, September 1st, 1877 : To Susan Ackleson, Anna B. Anderson, Julia Bigham, Emma Beamer, Mrs. W. G. Bonner, S. S. Boynton,

ton, H. C. Curtis, Kate M. Cox, Mrs. J. W. Collier, Miss M. C. Ellis, J. K. Fallon, J. M. Felts, Miss A. L. Gray, Miss Jennie Gourley, Charles R. Griffin, Martha E. Griffin, Mrs. S. B. Gates, J. C. Gilson, S. S. Howell, Mrs. Emma Hapgood, Mrs. A. M. W. Hays, Mrs. Lucy M. Hutton, Ada M. Holmes, W. T. Haley, C. H. Kimball, E. L. Knowlton, Mrs. A. Lowe, Rose E. Morgan, John H. McEwen, Miss H. J. Miller, Ira Moore, J. C. Oliver, Thomas G. Peachy, Mrs. Mary Prag, V. P. Pritchard, Jane Ross, Miss M. L. Soule, T. H. Sinex, Miss Grace Smith, Miss Addie H. Wells, Mrs. N. Z. Woodward.

SAN FRANCISCO COUNTY.

The Bush street Primary Cosmopolitan school has been made a first-class grammar-school, and Henry N. Bolander, present City Superintendent, elected Principal. He takes the position on November 21st.

Plans for a new Girls' High-school have been adopted, and it is expected that the erection of a building will soon begin.

A lengthy and sharp debate occurred at a recent meeting of the Board of Education, on the comparative merits of Appleton's and Johnson's Cyclopedias. We thought it was settled long ago that for popular use, and for common school reference, Appleton's is incomparably superior.

The Board, in October, subscribed for the JOURNAL to the extent of one copy for each primary and two for each grammar-school.

Owing, we now know, to a misunderstanding, the Board refused to dismiss several classes, and to grant the use of Lincoln Hall to the State Educational Association for their annual meeting. This Board of Education has been so liberal in advancing educational progress, and withal so careful of the best interests of the taxpayers of the community, that the severance of their connection with the department is regretted by the great body of our teachers. We hope to say more on this point when they "are out."

J. W. Taylor, the "new member" of the Board, made his maiden speech at the meeting of the 16th inst. It was on the Cyclopedia subject, and decidedly to the point. Mr. Taylor will do.

The salary of George Ward, second Assistant-

Secretary of the Board, has been raised from \$100 to \$125 per month. Mr. Ward has been in the office for six years, and has been an efficient clerk.

NAPA COUNTY.

We take great pleasure in publishing the following article. The author represents fully and ably our views on the subject of County Superintendencies, and we hope some such provision as he suggests will be ingrafted on our school law.

—[EDITOR.]

"NAPA COUNTY, September 20, 1877.

"SCHOOL AND HOME' JOURNAL : Thinking that your readers might be interested in the progress of education in this county, and noticing that no one seems to 'stand up' for our valley, I presume to address you this communication.

"We feel somewhat proud of the condition of our public schools, and I think we may legitimately indulge the feeling. During the last few years our schools have been awakened from a sort of comatose condition to a high degree of activity and a condition of progress which is so very desirable in everything educational.

"There are several causes which tend to secure this educational vivification, and first among them stands the fact, that about two years ago the people of the county were progressive enough to elect, for the first time in ten years, a live, practical teacher to the office of Superintendent of Schools, which, previous to that time had been occupied, chiefly, by ministers; good enough in their place, but evidently not in their place when at the head of the schools of a county. Nor do we believe that any one, not a teacher, and not in the actual business of education, should be placed in the position of Superintendent of Schools. We look forward to the time when the law, that made none but teachers eligible to the educational offices of the State, will be restored, with the additional clause, that none but first-grade and experienced teachers can occupy those offices. Then only will our public school system be in a condition to attain to the highest degree of efficiency. I am well aware that such a law is said not to be in accordance with the 'genius of our liberty,' but it is high time that the 'genius of our liberty' should be made to conform to the conditions of government, wherein only competent men can reach the heads of departments, and only capable professional men can occupy professional offices. In no other educated country of the world is education so carelessly left to the tender mercies of the incompetent and pro-

fessionally ignorant, as in our own. It is no answer to point to the educational progress of our country as compared with that of other countries. We can only compare it, as it is, with what we might reasonably conclude it would have been had its practical departments been placed in the skilled hands of professional direction. The results of such a comparison will be found differing as widely as the result of the mechanical skill required to erect a log cabin differs from the result of a mechanical skill that builds the astronomical instrument. But I wander from the domain of my letter.

"The second source of our educational prosperity lies in the fact that teachers are numerous, though wages are low, and therefore our Superintendent has been able to have some choice in supplying the schools of the county with teachers, and he has had moral courage enough to make good use of this privilege. I have no hesitancy in saying that Napa County has improved her schools and grade of teachers twenty-five per cent during the last four years, which is owing, to a considerable extent, to this second source of our advancement.

"The third, and perhaps most prolific source of our educational activity, exists in the fact that the parents themselves are awakening to their duties to the public schools and educational responsibilities as citizens and parents, and to the more important fact that they have discovered that the efficiency of the entire public school system depends on the zealous discharge of those duties and the unflinching assumption of every parental responsibility.

"It has been said by a certain writer that school government should be kingly in its nature. 'Even so,' remarks a friend at my side, 'but the subject should have royal blood in his veins.' So they should, not only because school government should be kingly in the nature of its authority, but because a kingly character should be given to every American citizen. It remains for the parent to give this royal quality to the character of the child, to train it into a condition suitable for the reception of an education; then he can look for the greatest results from the common schools, and a reduction of ignorance to a minimum, as well as a like reduction of the long, costly course of instruction in private schools which is now so fashionable. To this point our citizens are rapidly attaining. To such a condition our schools are rapidly rising.

"At the head of our public schools, stand

those of Napa City, under the care of Mr. Fellers as principal. He has not only discharged the duties of Superintendent of Schools with ability, but has drilled and toned down the schools of which he is principal, till they are equal to any in the State in discipline, not excepting those of San Francisco, and superior to most in instruction. Never has it been our pleasure to meet a more harmonious, thorough and energetic corps of teachers than those associated with Mr. Fellers. The very embodiment of energy himself, he seems to inspire those about him with his own element of success. The teachers of the main building came more immediately under our observation, and if these be samples of the teachers of the entire department, we are unable to determine what more Napa citizens could require in the shape of public school teachers. The department contains upwards of 500 pupils, instructed by eleven teachers.

"Mr. Fellers has, at his own expense, placed in the public school a complete outfit of the metallic Geographical Models, a piece of apparatus, which we believe is ultimately to become invaluable in the school-room. He is also the inventor of a piece of school apparatus designed to give an idea of book-keeping by the object method of instruction. It is certainly unique in design, and likely to prove a success.

"To this private apparatus the School Board have added liberally, and, by the way, the Board is composed of the most liberal kind of men it has been our pleasure to meet in such a capacity. Among the many things, are noticed a number of excellent cabinet organs, one to every pair of rooms, which are constructed to open into each other by wide sliding doors.

"Taken all together, we consider the Napa City school department a model worthy of imitation, and fully entitled to be called 'first' in the county, and we think our county one of the first in the State in school matters.

"But we have other schools in this county, of which it may be our pleasure to speak at some 'more convenient season.'

SQUEERS."

LOS ANGELES COUNTY.

The School Board of Anaheim are about to commence the erection of a six-class school building. A large square in a central part of the town has been purchased for school grounds, and inclosed with a cypress hedge. It is designed to ornament this square with shade trees, shrubbery, and flower plots. When finished, the building

and grounds will be among the handsomest and most tasty in the State. There are three hundred and forty children of school age in the district. J. M. Guinn has filled the position of principal for nine consecutive years.

Los Angeles County now ranks as third in the number of School children. The three containing the highest number of census children are as follows : San Francisco, 53,210 ; Alameda, 12,544 ; Los Angeles, 10,297.

The Los Angeles County Teachers' Institute will convene November 19th. Dr. Carr and Prof. Allen have promised to be present and take part in the exercises. Lectures will be delivered by Dr. Carr, Prof. Allen and J. M. Guinn, M.A.

The teachers of the southern portion of the county have formed an association, which meets the fourth Saturday of each month, at Santa Ana. Educational questions are discussed, and methods of instruction presented and illustrated.

Prof. Hewitt, formerly principal of the Santa Clara school has charge of the school at Santa Ana.

L. D. Smith, late principal of Springfield, (O.) High-school, has been appointed first assistant of the Los Angeles High-school.

MENDOCINO COUNTY.

The following schools in this county have been open for three or less months during the past school year : Bridgeport, $2\frac{3}{4}$ months, Miss Sarah Short, teacher ; Carroll, 3 months, W. T. Ramsey ; Central, 3 months, Belle Howard ; Con Creek, $3\frac{1}{2}$ months, A. W. Mock ; Elk Creek, 3 months, Miss Anna Duncan ; Garcia, 3 months, Miss Nettie Trueholtz ; Long Valley, 3 months, T. J. Heney ; Mill Creek, $3\frac{1}{2}$ months, Miss Kate Siddons ; Sherwood, 3 months, Cora Garvin ; Ten Mile River, $2\frac{1}{2}$ months, Nellie Malone ; Willows, $3\frac{1}{4}$ months, Miss Louise F. Cearley ; Whitcomb, $2\frac{3}{4}$ months, Miss Mary Wurtenburg.

The Ukiah school is full to overflowing at present, with scholars distributed as follows : Principal Weeks' room, 60 ; Vice-Principal Hunter's room, 63 ; Miss Davidson's room, 75 ; Mrs. Haskett's room, 80. Mrs. Haskett has been afflicted with a severe attack of inflammatory rheumatism, which has confined her to bed for the past three weeks. In the meantime, her daughter, Mrs. Hart, has been substituting for her.

Mr. Eugene Williams will soon close his school at Round Valley. Mr. Williams has been engaged to teach a school in Siskiyou County, for

which place he will soon leave. He has been authorized to engage a lady assistant for the same school. Do not all speak at once, ladies. His address is Covelo, Mendocino County.

The rate of school tax levied by the Board of Supervisors is 17 cents on \$100. The Board, at first levied 14 cents, which would raise an amount some \$3000 less than the Superintendent's estimate. When the County Superintendent threatened to mandamus, they raised the rate to meet the estimate. The difference arose from the impression which the Supervisors and others have, that the money paid into the County School Fund from poll taxes, should be considered as forming part of the Superintendent's estimate. A communication from the State Superintendent, and from the Attorney General, on the question reads as follows :

J. C. RUDDOCK, School Superintendent Mendocino County : In my opinion, Sect. 1818 Pol. Code is *mandatory*, and has no reference whatever to poll taxes.

E. S. CARR,

Supt. of Public Instruction.

I fully endorse the above opinion of Dr. Carr, and fully concur in his construction of the Section referred to.

JO. HAMILTON,

Atty. General

The new building in Carroll district is almost completed, and is something to boast of in the way of country school houses.

The school in Mill Creek district has closed for the purpose of a short vacation. In the meantime a new school house will be commenced, and when ready for occupation, school will be resumed in the new building.

Miss Anna Duncan, one of our efficient and "Life-diplomaed" teachers, has reached the haven coveted by "school-ma'ams," and is now Mrs. Herrick.

The present incumbent, Mr. Jno. C. Ruddock, has been re-elected County Superintendent.

Galloway district will vote on the question of raising a tax of \$600 for repairs, furniture, etc., on November 3d.

ALAMEDA COUNTY.

The Oakland Board of Education have let the contract for a new fourteen-class building in that city, to cost \$22,300.

The Alameda city schools are in excellent condition. The department has increased in extent and efficiency, until now it has no superior on the coast. In 1870, there were two schools and three teachers ; now, there are five fine

school buildings, eleven teachers, and a Superintendent. Theodore Bradley, formerly of the San Francisco Boys' High School, is Superintendent. The Principal of the Alameda High School is A. F. Craven, a gentleman very favorably known as a highly capable teacher.

The Board of Education has determined to get authority from the Legislature to build two new school houses, at a cost of \$25,000.

MONTEREY COUNTY.

It appears that Miss Ella S. Blaine, who was defeated for the County Superintendency of this county, by the present incumbent, R. C. McCroskey, has consoled herself by getting married.

SAN MATEO COUNTY.

G. P. Hartley, the present efficient Superintendent of this county, received, what must have been a gratifying demonstration of the appreciation of his constituents, by a renomination for the superintendency from both political parties, and a unanimous re-election from the people.

The Laguna School, in this county, is one of the best equipped schools in the State. The furniture is poor, but there is an excellent library, plenty of maps, charts, and apparatus. Supt. Hartley says of the teacher: "Miss Fallon entered the school with little experience in teaching, but being a young lady of excellent education and natural ability in disciplining and teaching, she is succeeding admirably."

A public-spirited citizen in La Honda district furnishes the teacher with a good house, rent free, in order to retain her services, at the moderate stipend the district can pay.

The Annual Institute of the teachers of this county met in Redwood City, October 3d, 4th, and 5th. Superintendent G. P. Hartley presided. C. C. Kinsey was elected Vice-President, G. W. Worthen, Secretary, and Miss E. J. Smith, Assistant Secretary. Explanatory lectures were given by State Superintendent Carr, on the School Law, and by Prof. C. H. Allen, on Methods of Instruction and Discipline. Prof. Norton lectured in the evening to a large and appreciative audience on "The Great Ice Age." Interesting and valuable exercises for the teachers of the county were conducted by M. C. Brophy in Grammar; Mr. Thompson on Mental Arithmetic; and H. J. Byrne on Written Arithmetic. The latter exercise was illustrated by diagrams, and is the system commended as being ingenious. Miss Miller spoke on the subject of Natural History.

Discussions on the methods presented were participated in by a majority of the members of the Instituté. Every teacher in San Mateo County was present, an unusual and highly commendable feature of this session.

The Redwood City Grammar-school, Superintendent Hartley Principal, has a very good library. What specially attracted our attention, however, during a visit, was an excellent cabinet of minerals, fossils, etc., and a fine collection of philosophical apparatus.

SANTA CRUZ COUNTY.

W. H. Hobbs has, for the fifth time, been elected to the Superintendency of this county. When the high character and efficiency of his opponent, Mr. Linscott, are taken into consideration, we may realize how thoroughly Mr. Hobbs has identified himself with the educational progress of his section, and how well his services are appreciated by the people. Mr. Linscott remains at the head of the Watsonville schools, which are not inferior to the best in the State.

J. H. McEwen, Principal of the Carlton school, in this county, has received a Life Diploma from the State Board of Education. Mr. McEwen is highly spoken of as a cultivated and successful teacher, both in this State and in Canada, whence he has lately come.

Spelling "bees" are at present very popular in this and the neighboring counties.

SHASTA COUNTY.

The Anderson school is, for the fourth year, in charge of A. McKillop.

DEL NORTE COUNTY.

The Crescent City schools are under the Principalship of C. F. Durham. The assistants are Mrs. Wright and Miss Anna Byrne.

SAN BENITO COUNTY.

The San Benito school, W. H. Housh, Principal, is in successful operation.

On October 8th the Emmet school, Miss Ella Packer teacher, held closing exercises. The term was a very successful one, and the teacher was highly commended by trustees and parents.

TEHAMA COUNTY.

A new school house, costing \$1200 and accommodating two classes, was finished about October 1st, and is now occupied.

SANTA CLARA COUNTY.

By reference to the *Daily Mercury* of the 4th, we find the San Jose Board of Education

striving against modern progress in educational matters, by compelling the teachers of the department to continue their schools during the progress of the County Institute. While the law requires every teacher to attend, the Board has the power to drop any teacher who does not obey their orders, therefore, the teachers have no choice. They must obey the Board.

The San Jose Board of Education, after being served with a notice from County Superintendent Rousseau of the illegality of their action in refusing permission to the teachers of the city schools to attend the County Institute, held a meeting at which a number of prominent teachers and the County Superintendent were present. President Lowe, of the Board, disclaimed any courtesy to the profession, and the Board finally passed a resolution closing the schools on the afternoons of October 31st, November 1st and 2d, so as to enable the city teachers to attend the Institute.

SANTA BARBARA COUNTY.

A new school building is just being finished at Lompoc Temperance Colony, in this county. This is the fourth school building erected in a place, which five years ago, was a barren waste. The schools have been placed in excellent condition by Prof. Olinger, who has left for a temporary sojourn in the upper country. Prof. M. Lipowitz, formerly Superintendent of Del Norte County, is the present Principal.

Miss Mary Earl opened the Point Sal school, early in October, for the fall term.

The schools of this county are in excellent condition, under the superintendency of G. E. Thurmond, who was recently re-elected for another term of two years.

SACRAMENTO COUNTY.

The Michigan Bar school reopened on September 23d with a largely increased attendance. This school, under the energetic and able management of Mr. J. W. Johnson, is an excellent sample of a "live" district school. There appears to be no apathy on the part of parents or trustees here. The Trustees have added a library and reading-room to their school house. They have taken several scientific and monthly magazines, including the JOURNAL, for the larger pupils and several papers for the smaller ones.

CALAVERAS COUNTY.

Nearly all the schools in this county are in session. The school in San Andreas commenced

on the 10th inst. with C. R. Beal as Principal and Miss Maggie Thornton as assistant; and on the same day, Mr. E. F. Floyd and his wife commenced school in the Murphy district.

Mr. F. H. Day and his sister, Miss E. C. Day, assumed charge of the Mokelumne Hill school on the 24th inst.

Mr. T. G. Peachey commenced school in Angels September 17th, with Miss Emma Powell as assistant.

The County Board of Examination at present consists of the following teachers: C. R. Beal, County Superintendent A. H. Coulter, E. F. Floyd, and H. Lieginger. At the meeting in September a first grade certificate was granted to Mr. W. C. Green.

At the recent general election, Mr. C. R. Beal was re-elected School Superintendent by a majority of 346 votes. Two years ago his majority was 92. This is conclusive proof that he has served the people acceptably.

Examination Questions.

The following examination questions for teachers were used in Ohio, during 1876-77, in examining candidates for State certificates. California teachers will find a comparison of these questions with their own both interesting and useful. We republish such papers only as candidates are examined on in this State :

READING.

Indicate the correct pronunciation of the following words: Acclimate, hymeneal, coadjutor, Cayenne, converstant, finale, gape, obesity, raillery, gum-arabic, allopathy, bouquet, camelopard, comparable, docile, finance, isolate, orthoëpy, spermaceti, vagary.

Difference between Pitch and Emphasis? What sentiments should the monotone be used to express? Selections to be read from Poe's "Raven," from "The Boys," by Holmes; from Clay's Speech on the Compromise Resolution.

ARITHMETIC.

1. Separate 120 and 144 into their prime factors, and show what factors compose the L. C. M. and G. C. D. of the two numbers. 2. Upon what principle does cancellation depend? 3. What is the difference between true and bank discount? 4. A merchant sold goods at 25 per cent. above cost for \$1259.62½ on credit of 60 days, taking in payment a note which he had discounted at bank on the same day at 10 per cent.; what was his net gain? 5. Analyse: A can cut a cord of wood in $\frac{1}{3}$ of a day, B in $\frac{1}{4}$ of a day, C can cut as much as both A and B; how long would it take the three together to cut $2\frac{1}{2}$ cords? 6. What per cent. of the square root of 39.69 is the cube root of 373.248?

7. What must be the asking price of cloth costing \$3.29 per yard, that I may deduct 12½ per cent., and still gain 12½ per cent. on the cost?

GRAMMAR.

1. Analyze the following sentence, and parse the italicized words :

" So at the post

" Where he hath set me in his providence

" I choose for one to meet him face to face,—

" No faithless servant frightened from my task,

" But ready when the Lord of the harvest calls."

2. Give the rules for the formation of the plural number, and pluralize the following nouns : Genus, genus, canto, chromo, nebula, amanuensis, 9, and Mr. Brown ; also, give the declension of the last. 3. Define Mode and Tense, and parse the italicized verbs that follow : " *Would* that I *were* a weaver." 4. " *Twere* wise in man to give it then a tongue." 5. Illustrate fully the proper use of *may*, *can*, *shall*, *will*, *should* and *would*. 6. Give synopsis of the verb *smite*, indicative and subjunctive modes, active and passive voices, first person, singular number. 7. Define Defective, Redundant and Impersonal verbs, and give examples. 8. In what ways are negatives formed? 9. What is the rule for double negatives? 10. Has the following sentence an affirmative equivalent? " And we feel no assurance that she is not destined to see the end of them all." 11. In what do the following sentences differ from each other in meaning? (a) If my friend lives in Philadelphia I will visit him. (b) If my friend live in Philadelphia I shall visit him. 12. Show, by means of Sentences, the correct and incorrect use of pleonasm. 13. Correct the following sentences : " Theism can only be opposed by polytheism." " In syntax there is what grammarians call concord or agreement, and government." " These may be carried on progressively above any assignable limit." " The chief and fundamental rules of syntax are common to the English as well as to the Latin tongue." " Thus a circle, a square, a triangle, or a hexagon please the eye by their regularity." 14. What in the light of grammar constitutes a perfect sentence?

NATURAL PHILOSOPHY.

1. Define the terms hypothesis, theory, law and force, as used in physics. 2. A body weighs 15 pounds in air and 7 pounds in water; another body weighs 76 pounds in air and 12 pounds in water, how do they compare in volume? 3. A body has fallen a distance of 236 feet : how long was it in falling, what was its final velocity, and what was the distance passed over during the last second? 4. How can the specific gravity of solids lighter than water be determined? 5. A cubical vessel, each side of which is 2 feet, has a capacity of 500 pounds of water : what must be the bulk of a hollow vessel of copper, weighing 5 pounds, which will just float in this water? 6. The specific gravity of absolute alcohol is .79. To what height will this alcohol rise in a Torricellian tube, when the mercurial barometer indicates a height of 29.75 inches? 7. Explain how the height of a mountain can be approximately measured by the barometer, the thermometer, and the variation in the boiling point of water? 8. Upon what do the velocity and intensity of light depend? 9. What is meant by specific heat? Explain methods for determining the specific heat of bodies. 10. State the theories of electricity. Describe the magnetic needle. To what variations is it subjected?

UNITED STATES CONSTITUTION.

1. Name and describe the three forms of colonial government. 2. What attempts were made to unite the colonies before the meeting of the First Continental Congress? 3. What were the most prominent defects in the Articles of

- Confederation? 4. What States recommended amendments to the Constitution upon its ratification by them? 5. How may an alien become a citizen of the United States? 6. What is meant by expatriation? 7. What restrictions are placed upon the power of Congress? 8. Name the departments that have been established for the purpose of aiding the President in discharging his duties as Chief Executive. 9. What territorial officers are appointed by the President? 10. Name the different Bureaus found in the Department of the Interior. 11. Describe the manner of electing the President of the United States. 12. What is the mode of impeaching a President?

PHYSIOLOGY.

1. Define nutrition, absorption, and secretion. 2. What fluids aid digestion in the stomach? 3. What fluids aid intestinal digestion? 4. Describe the structure and functions of the lacteals and lymphatics. 5. What objects are accomplished by the circulation of the blood? 6. Name the different classes of circulation. 7. Give a full description of the structure and functions of the arteries, veins, and capillaries. 8. What is meant by nerves of motion and nerves of sensation? 9. What is a gland? 10. Name and locate five important glands found in the human body. 11. How do the cerebrum and cerebellum differ as to their size, structure and functions? 12. Describe the retina and give its office. 13. Give the structure and functions of the vocal organs, including the vocal chords.

BOTANY.

1. What is elaborated sap? 2. Give its chemical composition. 3. What is meant by cellular tissue? 4. Describe a plant cell. 5. Define morphology, venation, and aestivation. 6. Name and define five forms of inflorescence. 7. How does a complete flower differ from a symmetrical flower? 8. What constitute the living parts of an exogenous shrub or tree? 9. Name and define the different kinds of fruit, and give an example of each kind. 10. Compare the stems, leaves, flowers, and embryo of exogens and endogens. 11. How does the natural system of classification differ from the artificial system. 12. Name the parts of a flower and their subdivisions.

THEORY AND PRACTICE.

1. What is your method of teaching beginners to read? 2. How do descriptive geography and map studies compare in importance? 3. What grammatical instruction should be given to pupils before they are required to study from a text-book? 4. What are object lessons? 5. What is meant by objective teaching? 6. How does education differ from knowledge? 7. Upon what principle is taxation for school purposes justifiable? 8. Name what, in your opinion, are the prominent defects in our graded school system. 9. By what means could the character of the instruction given in ungraded schools be improved? 10. What are the duties of a teacher to his profession? 11. What work on teaching do you esteem most highly? 12. Give reasons for your preference.

HISTORY OF UNITED STATES.

1. Give an account of the English discoveries in America before Jamestown was settled. 2. What was the usual route traversed by the early navigators in attempting to reach the New World? 3. How were the Virginia colonists affected by the English Revolution that led to the execution of Charles I? 4. In what wars were the colonists involved prior to the American Revolution? 5. What were the terms of the treaty that terminated the French and Indian war? 6. What territory has been acquired by

the United States since Washington's administration? 7. How many States have been formed from the Northwest Territory? From the Territory of Virginia? 8. Name some of the most important events in the political history of the United States. 9. What was the condition of political parties at the presidential election in 1860? 10. What new Territories, west of Mississippi, have been organized since Buchanan's administration?

GEOGRAPHY.

1. Outline some system of map drawing adapted to class work.
 2. Describe the drainage system in North America.
 3. In what respects is Europe better adapted to commercial enterprises than Africa?
 4. Different causes that affect the Flora of a given region.
 5. Between what isotherms are the different cereals best grown? (Answer generally.)
 6. What are the mountain systems of North America?
 7. Some of the natural causes for the location of large cities in modern times.
 8. Influence of the Gulf Stream upon the climate and productions of Northern and Western Europe.
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Questions used in the Boston Public Schools for examinations for Grammar-school diplomas, June 1877.

GEOGRAPHY.

(January 1877.)

1. Mention the principal cities on a terrestrial globe. Explain the use of two of them. If a telegram were sent from Boston at 9 o'clock, A. M., what would be the time in London when it was received, the transmission being instantaneous?
2. Give the causes of the changes of the seasons. In what month does a place situated on the Arctic Circle have its longest day? What is its length? What can you say of day or night in the south frigid zone at that time?
3. How is Europe bounded? Give, in their order, the principal chains in the great mountain system that crosses Europe and Asia, beginning at the west. Compare the surface of the country north and south of this mountain system.
4. Mention two important rivers of each grand division. Describe briefly the course of any two that you have named, and mention the important cities situated on each of them.
5. Name four cities of the world noted for important manufactures. Four towns or cities noted for important fisheries. If you could make a European tour, name six places which you would be specially desirous to visit. Why?
6. What mining regions furnish chiefly the following products: Gold, silver, iron, copper, tin, lead, coal, salt? What regions furnish the largest supplies of cotton, of silk, of wool, of flax, of hides, of rice, of grains, of coffee, of sugar, of grapes? Name six animals that are useful to man, and tell where they abound.
7. Give the situation of the following cities: Calcutta, Hongkong, Smyrna, Berlin, Cairo, Bordeaux, Astrakhan, St. Paul, Honolulu, Valparaiso, Quito, Omaha.
8. Give the route of a vessel sailing from Boston to Bombay, and its probable cargo. What would it bring back?
9. Tell what you can of the empire of Japan. Mention four other large empires.
10. Name points of the outline of the United States which are fixed in your memory as guides in drawing a map. Draw an outline map of the Spanish peninsula—indicating the principal rivers; and the situation of the following places: Madrid, Lisbon, Malaga, Oporto, Barcelona, Granada, Cadiz, Gibraltar. Indicate the position of the cities by their names.

Will some teacher favor us with brief answers to the following questions? They are selected from the *Pennsylvania School Journal*, and are a part of the same set answered so ably by J. J. Halloran, in our October number. Young teachers and those preparing for examinations will be amply repaid for a careful study of these and similar questions:

1. Show how instruction about a flower may be imparted both analytically and synthetically.
 2. In what order must a subject like Grammar be arranged for the purpose of teaching?
 3. Name the several purposes of the recitation in school in the order of their importance.
 4. Explain the philosophy of the word-method of teaching reading.
 5. Name an objective law of teaching, and show how it is derived.
 6. Name a subjective law of teaching, and show how it is derived.
 7. Explain the art of teaching as applied to the will.
 8. Explain the method of culture as applied to the imagination.
 9. Disprove Locke's doctrine that "the mind may be compared to a blank sheet of white paper."
 10. What are the ultimate ends of education?
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BOOK NOTICES.

A new educational monthly, *The Practical Teacher*, is announced by W. R. Winchell, the publisher of the *Chicago Weekly*. Mr. Winchell's reputation and the high character of the *Weekly* promise the right kind of an educational journal. There's "plenty of room up stairs," Bro. Winchell. The field is a very wide one, and we can not have too many first-class educational mediums. It is only the frauds which call themselves "educational," that will feel uneasy at the advent of the *Teacher*. We greet the new-comer cordially, and wish it an ample measure of success.

AN ENGLISH COMMENTARY on the *Rhesus*, *Medea*, *Hippolytus*, *Alcestis*, *Heraclidae*, *Supplices*, and *Troades* of Euripedes, by Charles Anthon, LL.D. New York : Harper & Brothers, Publishers. San Francisco ; Payot, Upham & Co.

This is a small, well gotten-up volume, by an author whose School Editions of Xenophon, Horace, Virgil and others are well and favorably known. If any fault can be found with Dr. Anthon, it is that he is in the habit of explaining too much, and making the work too easy for the students, a fault which has been avoided in the present instance. The commentaries on the above plays are excellent, and particular mention must be made of the argument or synopsis of each play, arranged in acts and scenes, for the

better understanding of the learner. The Appendix on the scanning of the preceding plays is very useful, particularly in the chorus passages, where the metre is mostly difficult. It is a pity that only six of Euripedes' Plays are here given. We should have liked to see some more out of the nineteen; we miss "Hecuba" particularly.

"THEO," A Love Story, by Mrs. Frances Hodgdon Burnett. Author of "That Lass o' Lowries." Philadelphia; T. B. Peterson & Bros. San Francisco; I. N. Choynski.

"Theo," a Love Story! and the title is not a false one—does not belie the book. It is indeed a love story—love at first sight, on both sides. It is not overdrawn nor improbable; but natural, fresh and bright. And the fact of the lover being already engaged to be married in a short time to another makes the scenes dramatic. It is not "That Lass o' Lowries" by any means, but it shows the same hand, and is a very charming story.

CICERO'S DISPUTATIONES TUSCULANÆ; DE NATURA DEORUM, and DE REPUBLICA, literally translated by C. D. Younge. New York; Harper & Brothers: San Francisco; Payot, Upham & Co.

At the present time, when classical learning is more or less obliged to yield to the natural sciences, most people who want to become acquainted with the Roman and Greek classics have recourse to translations. Good translations, however, are rare, and the ones generally used are seldom able to give the reader an adequate idea of the beauties of the original, which are lost either in too free, or too literal a translation.

The present volume hits the right medium, and we have not seen any better translations either from the Greek or the Latin. We trust it will be followed by more, and Harper's Classical Library will be an improvement upon Bohns.'

SOME FOLKS, by John Habberton, author of "Helen's Babies," etc. New York: Derby Bros. San Francisco: A. Roman & Co.

This is the most ambitious appearing volume that this prolific writer has yet sent out. It has nearly 500 pages, and about forty different stories. These are not at all in the style of the "babies"—one would hardly guess they belonged to the same family. They are decidedly Western in character, and very far west at that. Some one has intimated that the author affects Bret Harte in choice of subject and style, and he admits it, seemingly, in his preface, and very readily, we think; but these stories, though entertaining and amusing, are a

long way behind such a story as "The Luck of Roaring Camp." It is fully illustrated, and will be sought for by many of the one hundred thousand purchasers of "Helen's Babies."

EXAMPLES FOR PRACTICE IN THE FUNDAMENTAL RULES OF WRITTEN ARITHMETIC, by William Duenkal. San Francisco; A. L. Bancroft & Co.

This little pamphlet of 43 pages, by one of California's best County Superintendents, will prove invaluable to teachers in our ungraded schools. As the title indicates, the book consists of a number of practical examples, carefully prepared and systematically arranged. The author's preface fully, yet concisely explains the scope of the work, we therefore quote a portion:

"This little work is published, not to take the place of any other arithmetic, but rather to supplement the arithmetics now in use, by furnishing to pupils a greater amount of abstract work in numbers.

"All practical teachers recognize the fact, that the way to learn to do a thing, is to do it, not to talk about it.

"The examples here given, as will be seen, are carefully prepared, so that the several steps are easily taken, and will furnish wholesome employment for beginners, during a year or more; the result of which will be a much greater facility in mathematical operations, than is usually found."

The anticipations formed by the announcement of *The Primary Teacher* have been fully realized in the appearance of the first number. The journal is precisely what is needed by the great body of primary teachers in America.

The principal articles in this number are "Practical Lessons in the Kindergarten," by Mrs. Kraus-Boelte; "First Steps in Reading," by Lewis B. Monroe; "The Writing-Class," by J. W. Payson; "The Use of Language," by G. P. Quackenbos, LL.D.; "History in Primary Schools," by John J. Anderson, Ph.D.; "A Lesson in Fractions," by Malcolm MacVicar; "Primary Music," by Dr. L. W. Mason, etc. This is a bright galaxy of names, which indicates justly, a superior and highly practical mass of educational matter.

We welcome the new journal to the educational field: it is a broad and rich one for true merit. As a working teacher, we have often felt the lack of some such publication, and we predict that the workers in our profession will give this enterprise the same cordial welcome as ourselves. *The Teacher* is published by Thomas W. Bicknell,

Boston, already widely known as the publisher of the *New England Journal of Education*.

NOVEMBER MONTHLIES.

The *Galaxy* has an interesting list of subjects. "Five Days in the Tuscan Maremma," "Army Organization in the United States," "Administration of Abraham Lincoln; radical plotting against him," "Hidden Influences in Public Assemblies," "Civil Service Reform," "The Federal Language," "The Irrepressible Conflict in the East," and other articles, with the scientific miscellany, etc., make an attractive number. The Tuscan Maremma, with its buried cities and those now standing apparently belonging to a past age, will awaken attention.

The *Social Science Monthly* has some tempting articles, to read which, makes us *steal* time. Prominent are these: "The Growth of the Steam Engine," illustrated, "Modern Troglodytes," "The System of Sirius, and Solar Systems different from Ours," "Man and the Glacial Period," "The Gigantic Moa Bird," "Sketch of Servetus," with portrait, and the usual miscellaneous and literary notices. In "Modern Troglodytes" Dr. Oswald treats consumption wholly as an in-door disease, the effect of breathing foul air; says it is not a "mysterious dispensation of God, nor a product of "our outrageous climate," but the result of outrageous violations of physical laws, to cure which he would drive a man into the woods for two years.

The friends of the *Christian Union* are to be congratulated upon the accession to its editorship of a gentleman well known to the religious public by his scholarly attainments, and by his services as a journalist. Lyman Abbott, editor of the *Illustrated Christian Weekly* of the American Tract Society, is now associated with Henry Ward Beecher as editor of the *Christian Union*. It publishes articles by Mrs. H. B. Stowe, Rev. Howard Crosby, D.D., Rev. Edward Eggleston, D.D., and others. In January, a serial story, by E. E. Hale, entitled "G. T. T., or the Wonderful Adventure of a Pullman," will be commenced. The Sermons in Plymouth Pulpit, the Star Papers, editorials, stories, poetry, etc., form a constantly varying and interesting table of contents.

Appleton's Journal begins with an exceedingly interesting illustrated article on the scenery, the towns, and the people of Puget Sound and Washington Territory. There is an eminently picturesque description of the curious places and odd people on the Volga, in far-off Eastern Russia. The article, however, that will be likely to attract most attention is Mr. Burlingame's "Dead Magazines," an account of the American magazines and reviews that at one time flourished, but which time has left as wrecks on its shores. Julian Hawthorne depicts the great English volunteer gathering at Wimbledon. Edgar Fawcett, Edward Bellamy, Lizzie W. Champney, and Rudolph Lindau have some excellent short stories.

The serial stories, "By Celia's Arbor," and "Cherry Ripe," are continued, and the editorial departments are as readable as usual.

St. Nicholas begins the fifth volume with generous measure. The good things are too numerous to describe in detail, so we can only advise our readers, young and old, to see for themselves. The leading contribution, specially seasonable, too, is "A Budget of Home-made Christmas Gifts, with forty-six illustrations and diagrams." The paper occupies twenty-two pages, and has forty-six illustrations. Prof. Proctor furnishes a timely contribution, with six illustrations, about "Mars, the Planet of War." Under the title, "Chased by Wolves," there is a stirring account, with a telling picture, of an adventure such as boys delight in. The girls will find great attractions in a capital illustrated story called "Mollie's Boyhood;" in the historical sketch, "A Child-queen," with the accompanying frontispiece by Fredericks; and in the cleverly named and touching little tale, "Polly: a Before Christmas Story." The departments are fresh and entertaining, especially the "Letter-Box," which treats the young folks to two poems from the lately found book, "Poetry for Children," by Charles and Mary Lamb, and the boys particularly, to a kindly letter of advice from General W. T. Sherman of the U. S. Army, besides telling the latest news about the Moons of Mars, and talking of the Russo-Turkish war.

Harper's Magazine for November is the concluding number of the Fifty-fifth Volume. The publishers announce for the coming year new serial novels by Miss Thackeray, Miss Mulock, and Thomas Hardy. The November number is, as usual, richly illustrated, and full of exceedingly interesting matter. Specially readable is an interesting story, "Back to Back," by Edward Everett Hale; H. W. Elliott has a picturesque article on Alaska, with twenty illustrations; Mrs. Harriet Prescott Spofford has a profusely illustrated paper on "San Antonia de Bexar," which deals not alone with the almost tropical flora and the historical romance of that region; it is also a faithful representation of the wonderful agricultural resources of Western Texas. Mr. Blackmore's "Erema" is concluded in this number. In the way of short stories, there are "Madeleine," by Mrs. C. V. Hamilton; "My Mother's Objections," by Miss Henrietta Holdich, etc. Of special interest to Californians is "A Year of American Travel," by Jessie Benton Fremont. This is the first of a series of papers in which she will detail her experience of twenty-five years ago. The editorial departments, with their social gossip, scientific and literary intelligence, historical summary, and humorous anecdotes, are as varied and comprehensive as usual, including a very amusing "Drawer."

The November number of *Scribner* is the first of its fifteenth volume. Edward Eggleston's new novel, "Roxy," is begun, with an illustration by Walter Shirlaw. Henry James, Jr., has a short story in this number, Bret Harte a poem, John Burroughs a tramping paper entitled "A

Bed of Boughs," and George M. Towle a sketch of the career of Thiers. The opening illustrated article is one of *Scribner's* sporting series, entitled "Canvas-back and Terrapin," by W. McKay Laffan, of Baltimore, illustrated by the author himself. This paper tells about methods of hunting which will be new to most readers. An article on "The Countess Potocka" gives the romantic life of a lady, with whose portrait every one is familiar, but of whose history nearly every one is ignorant. Mrs. Herrick's article on "Bees" is accompanied by thirteen illustrations drawn on the block by the author. Miss Trafton's story, "His Inheritance," is continued, and tells about "The Cousins on the Jersey Shore," and "A Game of Cards." An article by John G. Stevens, on "The Erie Canal"—in which he predicts its abandonment—is likely to be as much talked about as anything in the present number. Mr. Frank R. Stockton has a glowing account of the winter climate of Nassau, and Col. Waring begins a series of interesting articles on the saddle-horse. The editorial department, by Dr. Holland, is, as ever, excellent.

LETTERS FROM PROMINENT EDUCATORS.

I am much pleased with the JOURNAL, and hope it will prove as great a success to you, financially, as I am sure it will prove a benefit to the teaching fraternity, intellectually, if its present high aims and efforts in their direction are maintained. Such a journal has long been needed, and I hope and believe this will be just what we want.

W. FRED. BRAY.

Moore's Flat, Butte County.

I am much pleased with your paper. I think it quite equal to any now published, and I can certainly work for it in good earnest.

C. H. CROWELL,

Superintendent Grass Valley, Nevada Co.

DEAR SIR : I have now been receiving your valuable journal for nearly a year. I think no teacher in the State should be without it. I shall use my efforts to further its circulation among the teachers of this county.

RICHARD KANE,

Superintendent of Mariposa County.

I like your journal. I hope the teachers of this coast will support you in your undertaking. I have shown it to a number of teachers; they have expressed them-

selves well pleased with it, and several have promised to subscribe. If the teachers of the coast will give the JOURNAL their support, and contribute to its columns, you can make the JOURNAL one of the best educational monthlies in the United States.

J. M. GUINN, M.A.,
Principal Anaheim Schools, Los Angeles
County.

I am fully convinced that the cause of education will receive a powerful and much needed impulse in the right direction, by the most extended circulation of such a publication as your journal. I beg to be numbered among your subscribers, and hope that every teacher will do likewise.

Yours respectfully,

PETER P. PETERSON.
Fort Jones P. O., Siskiyou Co. Cal.

I received the September number and am well pleased with it. I think we ought to have an educational journal in this State, and I know the teachers could sustain one.

BENNETT YARNALL,
Oakville, Napa County, Cal.

The Twins.

Yes! she has dolls, she has toys; and her dresses Are costly as those that her twin sister wears; But petting and kisses and frequent caresses, Lavished on Claribel *she* never shares.

Dolls! must she waste upon them an affection That yearns for a place in the proud mother's heart?

Toys! what are those when this chilly rejection Leaves her thus lonely, from loving apart?

Cold do you think her? oh! women, what blindness!

Shy in her manner, reserved in her style? Give her the warmth of a moment of kindness; And note how the face will light up with a smile.

Give her one kiss from the lips of a mother—
She longs for sunlight, and *you* are the sun!
Envy and hate in her bosom you smother;
And you'll have two darlings where now you have one.

NOTE—The pressure on our columns, due to our making a full Report of the meeting of the State Association of Teachers, obliges us to leave out the Children's Department this month, besides several good advertisements.

List of Newly Elected County Superintendents.

TERMS FROM MARCH, 1878, TO MARCH, 1880.

COUNTY.	NAME.	P. O. ADDRESS.
Alameda,	J. C. Gilson,	Pleasanton.
Alpine,	Mrs. Anna L. Spencer,	Silver Mountain.
Amador,	A. Edsinger,	Amador City.
Butte,	Rev. Jesse Wood,	Oroville.
Calaveras,	Charles R. Beal,*	Camarache.
Colusa,	Samuel Houchins,*	Colusa.
Contra Costa,	Dr. A. L. Wemple,	Martinez.
Del Norte,	John McVay,	Crescent City.
El Dorado,	John P. Munson.	Placerville.
Fresno,	R. H. Bramlet,*	Fresno City.
Humboldt.	J. B. Casterlin,	Hydesville.
Inyo,	John W. Symmes,	Independence.
Kern,	E. E. Calhoun, (Auditor and Ex-Officio Supt.)	Bakersfield.
Lake,	J. M. Shirley,	Upper Lake.
Lassen,	Z. N. Spalding,	Susanville.
Los Angeles,	W. P. McDonald,	Los Angeles.
Marin,	S. M. Augustine,	San Rafael.
Mariposa,	Richard Kane,*	Mariposa.
Mendocino,	John C. Ruddock,*	Ukiah.
Merced,	L. D. Stockton,	Merced.
Modoc,	E. P. Grubbs,	Alturas.
Mono,	Wm. T. Elliott,	Bridgeport.
Monterey,	R. C. McCroskey,	Salinas City.
Napa,	Henry C. Gesford,	Napa City.
Nevada,	G. E. Robinson,	Nevada.
Placer,	O. F. Leavy,	Forest Hill.
Plumas,	F. G. Hall,	Quincy.
Sacramento,	F. L. Landes,*	Sacramento.
San Benito,	A. Martin,	Hollister.
San Bernardino,	C. R. Paine,*	San Bernardino.
San Diego,	E. T. Blackmer,	San Diego.
San Joaquin,	S. G. T. Dunbar,*	Stockton.
San Luis Obispo,	F. E. Darke,	San Luis Obispo.
San Mateo,	G. P. Hartley,*	Redwood City.
Santa Barbara,	G. E. Thurmond,*	Santa Barbara.
Santa Clara,	L. J. Chipman,	San Jose.
Santa Cruz,	W. H. Hobbs,	Santa Cruz.
Shasta,	Mrs. D. M. Coleman,	Shasta.
Sierra,	J. S. Wixson,	Downieville.
Siskiyou,	Henry A. Morse,	Yreka.
Solano,	J. K. Bateman,	Dixon.
Sonoma,	E. W. Davis,	Sonoma.
Stanislaus,	W. H. J. Robinson,	Modesto.
Sutter,	O. E. Graves,	Yuba City.
San Francisco,	A. L. Mann,	San Francisco.
Tehama,	E. S. Campbell,	Red Bluff.
Trinity,	Miss M. N. Wadleigh,	Weaversville.
Tulare,	W. P. Kirkland, (Auditor and Ex-Officio Supt.)	Visalia.
Tuolumne,	I. J. Potter, (County Clerk and Ex-Officio Supt.)	Sonora.
Ventura,	D. D. De Nure,	Hueneme.
Yolo,	H. B. Pendegast,*	Woodland.
Yuba,	Thomas H. Steele,*	Marysville.

* Re-elected.

on nature, science, God, religion or government. As the years rolled on the heaven-born idea of public schools became more perfectly developed, but it was reserved for the new world and a new nation to give full expression to the new thought. In the seventh century after Christ, we find many great schools established in Ireland, and not a few in England and France. The Irish schools of those days were essentially free schools. They derived their maintenance from public and private endowments of land, mill privileges, mining claims, fisheries, free-will offerings, public lectures, and sermons. In some respects they were very like our schools, in others very unlike. They were a sort of mixed day and boarding school, and located generally on the coast or on the bank of navigable rivers, and did not exceed 150 in number. The venerable Bede, one of the most reliable historians of those distant times, tells us that the number of pupils in each institution varied from 300 to 3000, or more, according to the reputation of the school; that the school buildings comprised several houses, laid out in the form of streets, and that all students were admitted free, irrespective of rank or nationality, and supplied with every requisite—board, lodgings, and books. Every comer was welcome if he loved knowledge, and was willing to labor, late and early, to the best of his ability, to reflect honor on his Alma Mater. There were few graduates under thirty years of age and but few became teachers under forty. A candidate for the teacher's office, after graduating in one of these schools, was expected to travel in foreign lands, or else transfer himself in succession to two or more of the sister institutions as a student or assistant lecturer, with the view of acquiring liberality of thought, with all the more approved methods of teaching. In those primitive times teachers often practised some trade or calling, not only as a source of amusement after school hours, but as a

source of revenue. Like ourselves, I fear they were not burdened with a very large bank account. A French officer, who visited one of these schools, in the time of Charlemagne, says that he found the Professor of Latin in the garb of a stone-mason, repairing the walls of his cell, and that on going out into an adjoining field he found the head master, who was also bishop of the diocese, engaged in agriculture, and that he received his lordship's blessing from between the stumps of the plough.

Being situated near the coast, or on navigable rivers, these comparatively rich institutions became an easy prey to the pagan Danes during their long-continued efforts to conquer the island, and, as McGee and Bancroft inform us, all that escaped the Dane fell before the Norman-English during the twelfth and succeeding centuries. A school, like the foregoing, founded in the ninth century, by the bounty of Alfred, king of England, has since developed into the University of Oxford; and a similar institution, founded by the Norman sovereigns, became the nucleus of the University of Cambridge—two of the most famous seats of learning in the world.

In 1769, Frederic, King of Prussia, an enlightened prince of very superior talents, made provisions for a system of free national education—each school to be under the direct supervision of the local minister. This was the bed-rock of Prussian greatness. This system was gradually and carefully improved according to the light of experience. It gradually shook off the wing of the church and assumed a secular guise, thus becoming completely liberalized and nationalized, and is to-day supposed to be the best school system in the world. It comprises several grades of schools from the primary, or kindergarten, to the university—all maintained at the public expense; and, unlike other lands nearer home, Prussia never fails to honor her teachers, and never growls over the Edu-

cational Budget. In Prussia, as in England, Ireland, and a few other countries, a candidate for the office of teacher must graduate from some normal school, or else serve a fixed term of apprenticeship to some legally qualified master. In Hanover, no teacher can get married until he has insured his life—thus securing a small competency to his family in case of his early death; and, after a certain fixed term of service (or if through accident or disease he should become unable to remain in the profession) he receives a pension from the State.

Europeans, in their ignorance of American history, often allege that Prussia was the first of the Caucasian nations that established free schools. This, of course, is not true. *Massachusetts was the first community in the world to establish public schools on the principle that the property of all should be taxed for the education of all.*

In 1636 A.D., nearly a century before the birth of Frederic the Great, the Legislature of Massachusetts voted a sum, equal to a whole year's revenue, to erect a college—now called Harvard University, after John Harvard, a rich emigrant, who, in 1638, bequeathed to it one-half of his estate and all his library. Eleven years afterwards, in 1647, the State Legislature decreed that free public schools should be established in every district or town having fifty householders, and that a high school should be started in every city or town having more than 100 householders; and that said schools should be maintained at the public expense, and be free to all residents of school age. This act was the foundation of the public schools in America. Roger Williams, afterwards founder of Rhode Island, was teacher at Salem when the act became law, and is said to have aided the good cause with his voice and pen. In 1755, we find John Adams (afterwards President of the United States) in charge of a public school at Worcester. The town

at that time contained 1000 inhabitants, and his future Excellency was the recipient of the munificent salary of sixty dollars a year.

After the Revolution, the schools of Massachusetts were re-organized on a broader and more secular basis than was possible in early days. Since then her school system has kept in advance of the age, a shining light to each succeeding generation, a model for the guidance of sister States. Hence the comparative unity or similarity of requirement so characteristic of the American States. The same uniformity of plan, the same conformity of development seems to pervade them all—the same excellencies, the same defects being visible in every State from Plymouth Rock to the Golden Gate.

In 1829, the British Government, after a prolonged popular agitation, commissioned Archibald Whately and several other gentlemen—Catholic and Protestant—to plan an educational system for Ireland. They drew largely on the American models and corresponded freely with distinguished educators in all parts of the world, thus securing a rich expression of opinion from practical men as a foundation for their work. The result of their labors is the present "National System of Education" as it is called. It went into operation in 1832, and has since become the basis of the Canadian and Australian school systems. Started as a mere experiment and to satisfy popular clamor, it has become a rich success. Introduced some few years ago into England in a slightly modified form it is now in full operation, and bids fair to completely *oust* the old English, or denominational system, under which the parson was the head of the school as well as the church, and the teacher a mere slave to his "religious superior." Englishmen are at last convinced that what is good for Ireland and America can not be very bad for England, notwithstanding the continued opposition of the Episcopal clergy.

The English national schools are now under local Boards, elected by the people. They are examined periodically by "Royal Inspectors"—officers corresponding to our superintendents, but appointed for life, and required to devote their whole time to their school duties. The teachers are appointed during good behaviour, or until either party has given the other from one to three months' notice of intention to sever official relations, and they are paid, as in Ireland, according to the *grade* or *degree* of their certificate and the standing or progress of the school as reported by the inspector. The principals generally have neat cottages (rent free) near the school with lawn and pleasant grounds attached. In Ireland there is an inspector, or superintendent, for every sixty schools, and a head inspector for every "school circuit." These officers correspond with the "two agents (employed by the State of Massachusetts) in visiting the State for general inspection and improvement." In Ireland the inspectors are charged with the duty of examining pupils for promotion. This is done twice a year.

On retiring from the profession through ill-health after a long term of service, the teacher is entitled to a "gift" of from one to five years' salary. In Great Britain and Ireland there is a growing willingness to grant "worn-out" teachers life pensions as in Canada and Australia. A bill to this effect, recently introduced by W. Forster, Lord Fortescue, and others, was lost by a very small majority in the House of Commons. The head master of Rugby Collegiate school receives twenty-five thousand dollars a year, and the most indifferent village teacher receives at least seven hundred dollars a year with residence. The village teacher receives three times the pay of an ordinary mechanic, whereas in the United States the mechanic is better paid than the teacher; a sure sign that the supply with us exceeds the demand, and that our standard of qualification is lower

than that of our English brethren, notwithstanding the excellency of our school systems over that of England. In England the normal school or a long period of apprenticeship succeeded by severe examinations are the only doors to the profession. Is it so with us? If not, our own interests, and those of the public, call upon us to point out the evil and prescribe a remedy.

(TO BE CONCLUDED IN OUR NEXT.)

THE OLD SCHOOL-HOUSE.

BY CHARLES H. SHINN.

It lies in memory's magic lands,
The hills around it nestle ;
There troubled thoughts, and busy hands,
Hard problems used to wrestle.

O sweet the winds that past it blow,
The breezes tangling over,
The slopes behind it green and low,
The sunny fields of clover.

Beside the door, with flirt and thrill,
The little streamlet crimples ;
It rounds the pool, where all is still,
With flying flecks and dimples.

And here's the place, among the trees,
For lunch and merry speeches :
The children buzz and swarm as bees
About the mossy beeches.

With chat of school—"Why who spelled down
"That restless little midget?"
The golden hair is as a crown,
The fingers shyly fidget.

The airy feet glint down the path
In sudden, rapid quivers ;
Such glimmer earliest sunrise hath
Across the mountain rivers.

She always was so sweetly shy,
And yet—her own self wholly ;
The wood's wild fragrance seemed to lie
About her footsteps lowly.

We careless boys, in days gone by,
Just dimly felt her beauty,
Her simple love of brook and sky,
Her simple faith in duty.

But since—the sick have felt her smile,
In prisons, fever laden ;
The dusky dwellers by the Nile
Have blest the quiet maiden.

She nightly watched beside the bunks
Of wounded men of Sherman ;
She searched the records of the monks
Beneath the snows of Hermon ;

She keeps her patient path to-day,
By Alp, or wide Sahara,
Wherever mortal kneels to pray,
Or finds the Well of Marah.

I shut my eyes, I clasp my hands,
And cross the day-dream spaces
To find the merry boyish lands,
The merry schoolmate faces.

And bright and fresh with boyish thrill
I glow, beside these embers,
With tussles on the Dover hill,
In nut-brown, sweet Septembers.

I look across the crowding years,
That backward lie deep hidden,
Until my cheeks are wet with tears
That find their way unhidden.

A PRACTICAL GRAMMAR LESSON.

BY JOHN SWETT.

It is desirable in any grammar school of more than two or three classes to have some unity of purpose in any study.

It is a good plan in Grammar for the principal to furnish to each assistant some common basis of work, whether a textbook is used or whether instruction is given orally.

The following is a specimen lesson of the leading definitions which may be taken in each of the four grammar grades. In the course of three years, if taken up systematically every year, they will probably be learned. Pupils will thus avoid the confusion which inevitably results from a change of definitions under each successive teacher. These definitions should be copied by pupils into a blank-book. These

definitions are not offered as a perfect set. It is well enough to understand that it is hardly possible, in grammar, for definitions to include everything. The points to be aimed at in definitions for children should be : 1st. Simplicity ; 2d. A fair degree of definiteness.

Of course, any teacher using these definitions will modify them to suit himself before using them :

1. A *noun* is a word used as the name of anything.

2. A *verb* is a word used to express action or being.

3. A *pronoun* is a word used instead of a noun.

4. An *adjective* is a word used to limit the application of a noun or a pronoun.

5. An *adverb* is a word used to limit a verb, an adjective, or another adverb.

6. A *preposition* is a word used to show the relation of a noun or pronoun to some other word.

7. A *conjunction* is a word used to connect other parts of speech, phrases, clauses, or sentences.

8. An *interjection* is a word used to express wonder, surprise, or sudden feeling.

II.

SUBDIVISIONS OF THE PARTS OF SPEECH.

1. A *proper noun* is a special name applied to only one of a class of things to distinguish it from others.

2. A *common noun* is a general name applied to a class, or to any one of a class of things.

3. A *transitive verb* is one that requires the addition of an object in order to complete a statement.

4. An *intransitive verb* is one that expresses a statement without the addition of an object.

5. A *neuter verb* is one that merely expresses *being*. The verb *to be* is the type of the neuter verb.

6. A *personal pronoun* is one that rep-

resents a person, or that stands for the name of a person or thing. The personal pronouns are *I, you, thou, he, she, it.*

7. A *relative* pronoun is one that relates to an antecedent, and connects a clause with the principal statement in a complex sentence. The relative pronouns are *who, which, what, that, and as.*

8. An *interrogative* pronoun is one that is used in asking a question, and that stands for something contained in the answer to the question. The interrogative pronouns are *who, which, and what.*

9. An *adjective* pronoun is an adjective used without the noun that it limits. The leading adjective pronouns are *this, that, some, any, etc.*

10. *Coordinate* conjunctions connect words or statements of equal rank. In general they are the signs of compound sentences. They are *and, but, or, nor, etc.*

11. *Subordinate* conjunctions connect clauses with principal statements in complex sentences. They are *if, though, because, than, that, as, etc.*

12. *Participles* are verbal adjectives or verbal nouns.

III.

THE SENTENCE.

1. A *simple* sentence consists of one subject combined with one predicate, making one statement.

2. The *subject* of a sentence consists of a noun, or of one or more words filling the place of a noun, about which a statement is made.

3. The *predicate* expresses a statement about the subject, and consists of a verb, or of a verb united with one or more words added to complete the statement.

4. A *phrase* consists of a combination of words containing neither a subject nor a predicate. A phrase is, in general, introduced by a preposition, an adjective, a participle, or an infinitive.

5. A *complex* sentence consists of one

principal statement, combined with one or more dependent statements.

6. A *clause* is a statement that depends for its sense on its connection with a principal statement.

7. A *compound* sentence consists of two or more principal statements connected by a co-ordinate conjunction, either expressed or understood.

8. A *sentence* consists of one or more subjects, combined with one or more predicates, making one or more statements.

PRACTICAL LESSONS IN THE KINDERGARTEN.

BY MRS. KRAUS-BOELTE.

THE BALL, AS INTRODUCED IN THE KINDERGARTEN.

The Kindergarten has just been opened with a simple, child-like prayer and a morning song. Now the little ones are all seated in a circle with their teacher, their expectant eyes turned towards the latter and the long wooden box she holds in her hands. The box is opened, and the children clap their hands when seeing their dear play-fellows, the balls. Six balls are contained in the box, each ball having one of the colors of the rainbow—blue, green, yellow, orange, red, and violet (purple).

Froebel used the ball as the first of his means of occupation, because he based all his means of play on mathematical foundations, and because the ball is the simplest and completest ground-form, in which all other forms are contained. He also observed that the ball is the first plaything the mother gives to her little one; wherever we find a child, we find a ball: as, indeed, it is a favorite plaything alike with young and old.

One ball is first taken out—it may be the red one this time. A child quickly learns to observe and compare. The ball gives the elements for form, color, and

motion, and the child finds the best opportunity in this simple body for the observation and comparison of size, form, color, and motion. The child is led to observe that the ball is small, light, soft, and simple; also, that in the six balls appear the three primary colors—*blue, yellow, and red*; and their intermediates, the three secondary colors—*green*, formed by the combination of blue and yellow; *orange*, formed by the combination of yellow and red; *purple*, formed by the combination of red and blue. By a knowledge of these combinations, the harmony of colors can be explained. At first the ball may be compared with other balls or forms of the same shape, for example: the globes on the gas-fixtures, an apple, a round button, the head, seed, buds, etc.

Once, a child in our kindergarten named "a plate" and "a ring," when a little five-year old boy burst out: "No, no; one is flat, and the other is only outside round, but the ball is round every way," and he accompanied his words with motions of his hands, as if he wanted to mould a ball. Next, the color calls forth the child's attention. Each in turn, the children compare the ball with the red cherry or strawberry; the rosy cheeks, red lips, with the stockings or sash of a child, with the paper strips they used in mat-weaving, etc., etc. The ball fascinates the child because of its tendency to constant motion. The ball may be thrown up and caught again, which experiment the round, little hands cannot accomplish at first. He looks disappointed, but the kindergartner quickly suggests that the ball is like a little bird, who tries hopping in the nest, and soon the children will try themselves to "hop," when a little song may be introduced to heighten the interest, for example:

"The little bird hops in its nest—
Tip, tip, tip, tip, tip, tap;
It tries to do its very best—
Tip, tip, tip, tip, tip, tap."

Now a string of the same color is fastened to the ball, and in order to add new ideas, the following game is introduced, the children all standing in a circle:

"Raise the ball—sink it down;
Raise the heels—sink them down;
Raise the arms—sink them down;
Move your right leg up and down;
Now stand straight—now bend down."

Also :

"Take the ball and swing it round;
Swing your arms now round and round."

In connection with this latter exercise the song of the windmill is introduced, each child representing a windmill:

"See the windmill, how it goes,
While the wind so briskly blows;
Always turning round and round,
Never idle is it found."

A conversation on the wind, and windmills, would naturally follow.

The ball may be swinging from right to left, from front to back, which movement may be compared to the pendulum, and the child may try to make the same movement with his arms, and sing:

"And whatever the ball can do,
I can try, and so may you."

By and by the child's eyes, hands, and arms are so much strengthened that, when the ball is thrown upwards, almost without failure it will be caught. When throwing it thus *three* times upwards, it may be accompanied by the following words:

"Once, twice, thrice—
This is very nice."

Or the ball is thrown upwards *seven* times, each time a little higher; the child may accompany this by singing the scale: "One, two, three, four, five, six, seven," etc., etc.

A little lesson in language may be given—for example: when a child names a quality of the ball, all the children repeat the sentence: "The ball is *red*," or "the ball is *round*," etc. Of course, whatever is pronounced in such a "conversational lesson" should be articulated accurately and distinctly, in order to develop the organ of speech.

If children are taught to *speak* well, before they learn to *read*, they will never afterward require special instruction in the art of reading with expression.

PRIMARY INSTRUCTION— WORD METHOD.

BY O. S. INGHAM.

The October number of the JOURNAL announced that "Articles on *primary instruction* are specially needed. Will not some of our friends favor us, and that right speedily?"

This statement and interrogatory seem to have been made in response to many earnest inquiries for information on that too often neglected, but most important subject. That those who are engaged in the work of primary instruction, justly estimate the importance of that work, and earnestly desire to be well prepared therefor, as these many inquiries certainly indicate, augurs most auspiciously for the welfare of the schools of California.

I shall premise, in the outset, that the *primary* is *the* important department in the common-school course of study; that, if the work of that department is well done, what remains to be done in each successive department, will be much more easily and thoroughly done; that it is by far the most difficult part of the work of instruction, requiring peculiar natural qualifications and special preparation; that while *ninety-nine* can be readily found to teach Latin and Algebra successfully, with difficulty *one* can be found to do the work of the primary grade correctly and thoroughly; that too often the work is very imperfectly, nay, damagingly done, really proving to be, *not* a correct, pleasant starting-point in an educational course, but instead, the prolific cause of bad habits in spelling, reading, and study; of the most absurd ideas of what study is, and its object; perhaps, even, of the extinction of the spirit of inquiry

and the complete stultification of the intellectual faculties.

Before I attempt to exemplify the teaching of one—and that, the first and most important—branch of primary instruction, reading, let me further premise that through the perceptive faculties of the child, through his restless curiosity, his quick, clear observation, his thirst for knowledge, must his mind be aroused, his attention secured, his imagination kindled, and the first, correct, most enduring impressions made of the nature and object of study. In primary instruction especially, are the interest and attention of the pupil prerequisites to satisfactory progress.

I take it for granted that the live, progressive primary teachers of the State have discarded forever the old A, B, C method, that abomination of the school-room aforetime, that stultifier of childhood, and have already adopted, or wish to adopt, a more correct, common-sense method; such, for instance, as Webb's Word Method—a method pre-eminently well-calculated to secure all the necessary auxiliaries to success mentioned in the preceding paragraph.

The only objection which can, in my opinion, be fairly urged against this method is, that it requires a teacher to be intelligent, wide-awake, studious, thoughtful, progressive, and willing to make special preparation for each day's work; though I am aware that, as an off-set to the extra outlay of thought and labor by the teacher, it may be fairly urged, also, that the thoroughness of the mental discipline, and the rapid progress of the pupil are more than an equivalent.

Every school in which primary instruction is given should be furnished with a set of Webb's Dissected Cards, Frame, Key, Cuts, and Chart of Words, their appliances, or their equivalent, being necessary aids to the work of instruction. Still, the ingenious teacher can, if the Board will not

supply the required apparatus, prepare, with a little trouble and slight expense, those aids which are indispensable—the words and frames.

The teacher, having thoroughly matured her plans, and secured, as far as possible, the aids to carrying it out successfully, ranges in order before her the class of little ones who are about to take the first step in their educational course. From among the names applied to common, familiar objects—*dog, cat, boy, girl, house, etc.*—suppose she has selected, as the first to be presented, the word *cat*. Before showing the word to them, she talks with the different members of the class about things of interest to them—their homes, their parents, their toys, their pets, etc. At length she asks how many of them have a *cat*. Nearly all of them, of course, have a *cat*. Talk about their cats, their color, their size, number of legs, what their bodies are covered with, what cats can do, etc. When their interest has reached its highest pitch, ask them if they would like to see a picture of a cat. Talk about the picture. Is it a *cat*? Can it run? No; it is not a *cat*; it looks like a *cat*, but it cannot run, nor eat, nor purr. Then, while the interest is still unflagging, ask them if they would like to see and learn to read the *word* that stands for *cat*.

If the teacher is earnest, enthusiastic, with heart, soul, and mind enlisted in the work, the minds of the little fellows will be thoroughly awake and interested, and, when the word is shown to them, every eye will closely scan it, every mind will be strongly impressed with its form and its associated meaning, every memory will quickly grasp and firmly retain it. After the word has been thoroughly examined, it should, by each child in turn, be pointed out and pronounced, as it occurs, at irregular intervals, in the list of forty, fifty, or seventy-five words found in the card. The teacher should then print the word neatly

and accurately on the black-board, to be copied on their slates by the pupils when they return to their seats. For the first few days, one word per day will be enough to engage the attention and efforts of the class. Each exercise, for the first three months, should not occupy, at farthest, over ten or twelve minutes; it would be found quite difficult to keep the interest to the “sticking point” for a longer time.

The teacher has decided, perhaps, to introduce at the second exercise the word *black*. After briefly reviewing the word *cat*, the teacher talks familiarly with the class about the *color* of cats, asking if any of them have a *black cat*. Some of them, doubtless, will have a *black cat*. While their interest is excited, ask them if they would like to see the *word* that stands for *black*. Present the word, let each pupil, in turn, hunt it out in the list of words; then it should be copied on the blackboard for the pupils to print on their slates. Print the two words *black cat* together on the blackboard and have the pupils, in turn, point out and read them. The word *good* might be introduced next, and treated similarly to the word *black*. The word *the* might be next presented; of this word but little can be said or done more than carefully calling their attention to its form, having it pointed out, and printed on the slate. The words *the good black cat* should be printed, scanned, and read together.

Let the word *mice* be next shown them, but not till the looks, size, color, etc., of mice have been thoroughly discussed by teacher and pupil; then proceed as with the word *cat*. Next introduce the word *catches*, first having carefully considered the different actions of different animals, especially cats.

At this point, review all the words, thus far learned, and dwell on the fact that cats catch mice. Finally, place before them the full sentence, *The good black cat catches mice*. The teacher should read it naturally

and distinctly. Let the class, in concert, read it two or three times naturally and distinctly, with the proper intonation and expression, the teacher pointing out the words as they are pronounced. Let each pupil, in turn, read the sentence, himself pointing out the words as he pronounces them. Let the pupils, also, build up the sentences by placing the words in their proper connection. At this point, the Word-method Book should be placed in the hands of the pupil, and he should be taught the use and object of the book.

This course, substantially, can be pursued to great advantage for three or four

months, when it will be found, if the work has been properly done, that the class can intelligently, interestedly, naturally, read every word and line in the Word-Book, equivalent to a First Reader; and, far more important than all else, the child has acquired correct habits, and proper conceptions of the methods and objects of study.

Though much might be added to this brief and imperfect sketch of the theory and working of the word-method, the length to which the article has already grown admonishes me to bring it to a close.

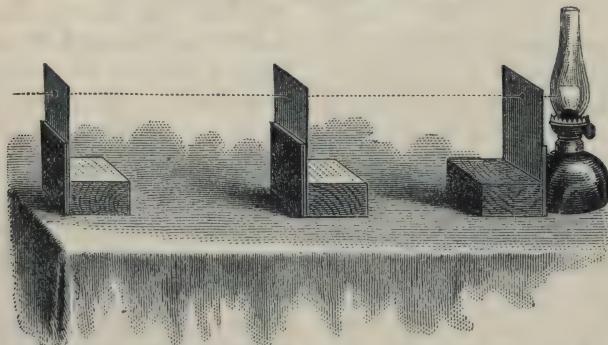


FIG. 1.—EXPERIMENT PROVING THAT LIGHT MOVES IN STRAIGHT LINES.

SIMPLE EXPERIMENTS IN OPTICS.

BY ELIZA A. YOUNMANS.

The little work of Mayer and Barnard, designed to introduce beginners to the experimental study of optics, is so much needed, so skillfully done, and may be so helpful to teachers and students of all ages, that it is desirable to offer a few illustrations of the method of experiment adopted, and to point out some of the cheap and simple ways which Prof. Mayer has hit upon for exemplifying and proving optical phenomena. We shall make free use of his text as well as his cuts in the present article. Fig. 1, for example, represents the arrangement adopted to prove that light

moves in straight lines. He first gets three little blocks, two or three inches square; then three slips of pine, three inches by four and one-eighth of an inch thick; and then three postal-cards, through which a small aperture is to be made. The authors say: "Just here we need a tool for making small holes and doing other work in these experiments; and we push, with a pair of pliers, a cambric needle into the end of a wooden pen-holder or other slender stick, putting the eye-end into the wood, and thus making a needle-pointed awl." This is an excellent little contrivance, and we suggest to the pupil to make a set of them with different-sized needles, which he will find very useful.

Now, lay the postal-cards flat on a board,

one over the other; measure off a half-inch from one end of the top postal-card, and with the awl punch a hole through them all just half-way from each side. Trim the holes with a penknife, and then take one of the cards and one of the wooden slips and put the card squarely on one of the wooden blocks, and, placing the slip over it, tack them both down to the block. Place one of the blocks near a lighted lamp, as shown in the figure, and another at the opposite side of the table, where the observer can sit to look through the aperture. When the light is seen through both openings, draw the third card into line between the others, when the ray will be seen to pass through all three cards. Next, take a piece of thread and stretch it against the sides of the three cards as they stand, and it will be seen that they are exactly in line, and, as the holes in the cards are at the same distance from their edges, it is proved that the beam of light that passes through all the holes must also be straight. If the position of the blocks is changed, so that the directions of the holes in the cards are different, the same effect will be observed, so that it is demonstrated that light moves in exactly straight lines in all directions from the source of illumination. Of course, a pupil

can learn from a book that light moves in straight lines, but this will be a matter of heresay or authority, and not a direct knowledge, while if he makes this experiment he will have begun to prove things for himself, and the preparation for it, and trial in different ways, will be a good exercise in manipulation.

Now, if the student wishes to prove the variation in the quantity or intensity of light at varying distances, he can do it in the simple way shown in Fig. 2. A small slit is cut in the card near the lamp, through which the light passes. A sheet of white paper, resting against some books at the opposite side of the table, forms a screen, upon which the light falls. A bit of paper, an inch square, is held by the point of the awl, the handle of which is stuck in some wax on the table. Set the needle-awl, with the bit of paper, about twelve inches from the lamp, and then darken the room. Upon the screen, which is placed two feet from the lamp, will then be seen the shadow of the square bit of paper. With a lead-pencil trace an outline of this shadow on the screen, and then move it a foot farther back; and note how much the shadow is increased in size. With the pencil trace this shadow on the screen, and then laying the paper on the



FIG. 2.—EXPERIMENT WITH SHADOWS.

table and measuring the two shadows, you will see how they compare in size, and get a clew to the principle of inverse squares, as it is called.

Fig. 3 represents the means used in

showing that the angle of the ray as it strikes the mirror is the same as that at which it is reflected. *A* and *B* are two of the postal-cards and their blocks used in the first experiment, turned with their in-

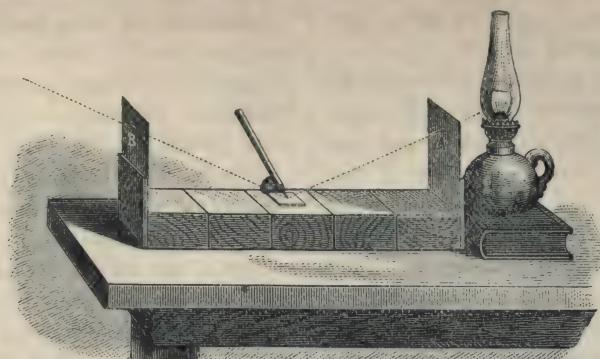


FIG. 3.—ANGLE OF INCIDENCE AND REFLECTION.

side faces toward each other, and separated by three more blocks of the same dimensions as those supporting the cards. The flame is placed even with the hole. On the middle block rests a piece of glass, coated on the bottom side with black varnish. The eye looks through the hole *B* upon the glass, where it sees a small spot of light that is the reflection of the ray from the lamp through the hole *A*. The point of the needle is placed directly over this spot, and held in position by the wooden handle with a piece of wax. A strip of paper, filling the distance from *A* to *B*, and four inches wide, is held upright between the cards, with the bottom resting on the mirror. The edge of this is marked with a pencil at the hole *A*, and again at the needle-point. A straight line joining these marks will form an angle at the bottom of the paper that is identical with the angle of incidence. By reversing the ends of the paper, and comparing this line with one from *B* to the needle, both will be found alike. The angles of incidence and reflection agree.—*Popular Science Monthly.*

THE Princess Louise is now interested in a cheap cookery movement in Brighton, England. A teacher has been engaged from the Kensington National School of Cookery, who gives lessons in all branches of the art.—*Bazar.*

TEACHING PRIMARY ARITHMETIC.

BY JULIAN W. JOHNSON.

In teaching Arithmetic to the younger pupils, there are ten steps for mental reckoning: 1st. Making the number, ($1+1+1+1$) ; 2d. Counting forwards ($1, 2, 3, 4$) ; 3d. Counting backwards ($4, 3, 2, 1$) ; 4th. Addition ($3+1, 1+3, 2+2, 2+1+1$) ; 5th. Subtraction ($4-1, 4-3, 4-2, 4-4$) ; 6th. Multiplication ($4\times 1, 1\times 4, 2\times 2$) ; 7th. Division ($4\div 4, 4\div 2, 4\div 1$) ; 8th. Analysis ($4=3+1, 4=1+3, 4=2+2, 4=2+1+1$) ; 9th. Comparison (4 is 1 more than 3 ; 3 more than 1 : 2 more than 2) ; 10th. Example: (James had three peaches, and found one more: how many peaches has he now?)

It is considerable work to go through every number from 1 to 10 , but if thoroughly done we may be assured that a foundation has been laid worthy to build upon.

THE NUMBER ONE—MENTAL EXERCISES.

How many stoves in the school-room? There is one stove in the school-room. How many desks does the teacher have? The teacher has one desk. How many heads have you? How many noses, mouths, tongues, throats, etc.

I hold up one pen. How many pens is that? Repeat: That is one pen. I now

hold up other objects, a book, an inkstand, one finger, a marble, etc.

Now, on the blackboard, I make one cross, one dot, one ring, one mark, asking each time how many crosses is that, how many dots, rings, etc.

Subtraction.—If I make one mark on the board and erase one mark, what is left? We can say that one from one leaves nothing. Repeat it after me.

Examples: If George had one apple when he came home, and then gave it to his mother, how many apples would he have left? If Peter had one knife, and then traded one knife away for an orange, how many knives had he left? If Alice had one pear, and afterwards she ate one pear, how many pears would she have left?

Slate Exercises.—Make one dot, one ring, one cross, one straight mark.

Subtraction.—Make one ring. Erase it. What remains? The same with marks, dots, etc.

THE NUMBER TWO.

Holding up a book. How many books have I? You have one book. How many books have I now? You have two books. Repeat: One book and one book make two books. The same with hands, chalk, pencil, etc. How many ears has a dog, a cow, a pig, etc.?

Blackboard Exercises.—I make one mark on the board, and near it another; how many have I now made? You have made two marks. The same with dots, rings, crosses, etc.

Counting.—Watch closely. I now make on the board one mark, a little distance from it two marks. How many marks here? One. How many here? Two. (Thus, | ||). Now count quickly: one, two. What comes first? One. What next? Two. Now backwards, (thus, || |) two, one. The same with dots, rings, etc.

Addition.—Hold up one hand. Repeat: There is one hand. Hold up another. Repeat: There is one more hand. How

many hands in all? Repeat: One hand and one hand more make two hands. Here is one ball in this hand and one in that hand, how many in both hands? Repeat: One ball and one ball more make two balls. The same with other objects, but always let the answer be complete.

Subtraction.—How many books am I holding up? Two. How many books are there then? Two. Now watch carefully. I take one book away: are there two books now? No. How many are there? One. How many have I taken away? One. How many books then remain, if you take one book from two books? When you take one book from two books, one book remains. The same with other objects.

We can say this a shorter way also; we can say: one from two leaves one.

How many marbles do you see? Two. I now take away two marbles; how many are left? None. Repeat: Two marbles from two marbles leave none. The same with other objects.

Blackboard Exercises.—How many pigs have I drawn? Two. How many have I erased? One. How many remain? One. (Draw houses, apples, etc.) As before: one from two leaves one. The same with dots, marks, rings, etc.

Review: How many are left when you take two away from two? How many when you take one from two? When you take one from one?

Multiplication.—We have seen that two is made from one and one. I will show it to you again: (Two balls close together) That is the whole two. (Separate the two balls) How many balls are here? One. How many here? One. There is once one ball, and here is once one ball. How many times can you see one ball? Two times. And two times one ball are how many balls? Two balls. Repeat after me: Two times one ball are two balls.

We can say it shorter, thus: Two times

one are two. Repeat that after me. The same with marbles, etc.

On the Blackboard.—How many times have I made one ring? You have made one ring once. So that is once one ring. (Make another ring.) How many times have I made one ring now? You have made one ring two times. And two times one ring are how many rings? Two times one ring are two rings. Shorter: two times one are two.

Division.—John has two books. How many books has John? Two. George and Henry, come here. You shall divide these books between you. How many books has John? Two. How many boys are to divide these books between them? Two. Divide them. How many books has George? One. How many has Henry? One. When two boys divide two books between them, how many does each boy receive? One. Repeat: If two books are divided between two boys, each receives one book. When two is divided by two, each has one.

Remember to drill them until each step is indelibly impressed on the mind. Let patience and thoroughness be your guide, and when you have finished you will be satisfied with the result. It will take all of the first school-year to thoroughly master all of the numbers from one to ten.

In my next I will give a mental exercise, and also slate exercise (each separately) on the Number Two.

SEWING IN UNGRADED SCHOOLS.

BY MISS E. M. VORIS.

At the late State Educational Convention at San Francisco, a resolution was passed, by a small majority, favoring the introduction of sewing into "primary, grammar, and ungraded country schools taught by women." "The *women, strangely enough voting, as a rule, in the negative.*" I, being

a woman, failed to see anything strange in this negative vote, just as these gentlemen, doubtless, see nothing strange in men's prescribing work for women, instead of giving their attention to something they know something about. During the last twenty years, I have had considerable experience in the ungraded country schools of this and other States, and I think the instances are rare where girls are not taught to sew by their mothers, at home, in a better manner than they could be taught by their teachers during the short time they are at school.

In the country districts, school is open from six to eight months, of twenty school days each, during the year. Making allowance, for absences, there are few of the most regular attendants at school more than one-third the number of days in a year. This being the case, it seems to be the part of wisdom for teachers to devote their whole time to training children in those things that parents cannot or will not teach. There are few mothers in the country districts who would teach their children to read and write, while the mother who does not teach her daughter to sew is an anomaly. Most parents teach their children to work from the necessity they are under of obtaining all the assistance possible in providing for the wants of the family; and it is a common thing for girls between the age of twelve and seventeen to stay out of school to make their own dresses, or to assist their mothers in providing garments for younger brothers and sisters. The parents who do not teach their children to labor belong to that thriftless class who do not send to school at all, consequently, teaching labor in school would not benefit them.

According to the State Superintendent, the number of children in this State between the ages of five and seventeen, is 200,067. The number enrolled in the public schools is 135,335, with an average

daily attendance of 89,539. Here we have less than ninety thousand children in regular attendance at the public schools, while more than one hundred thousand are absent. Now, from which of these classes is derived the population of jails, asylums, almshouses and prisons? If from the former, let us have a "new departure" in our method of teaching, and that right speedily. If from the latter, how will better public schools save them?

Is the boy who attends school regularly, for even six months out of the year; who goes, not only because it is a pleasure, but because it is a duty; who is taught that for the time being, attending school is his business, that must be attended to in a prompt and regular manner, and no other business or pleasure should be allowed to interfere with it; is this the boy that swells the list of incapables? Or is it the boy who is permitted to stay out of school, to follow some scheme of pleasure, or who is sent on some trifling errand, and then goes tardily to school, or lounges the rest of the day in idleness; who is allowed to go to school just when he feels like it, until habits of idleness grow upon him so that he never feels like it?

Suppose that the efficiency of our public schools were increased an hundred-fold, would they make useful citizens of children who never attend them, or attend in such a manner as to receive no benefit? Is it just to point to alms-houses and prisons and say: "The methods of teaching in our public schools are wrong," when a very large majority of the inmates of these institutions have never been regular attendants at the public schools?

The demand for reform is imperative, but it does appear to me that the thing of very *first importance* is to devise some means of bringing the children into the schools.

There is a cry against compulsory laws, because "they are not in accordance with

the spirit of our government." "The spirit of our government" does not allow parents to kill their children physically, why should it allow them to do a worse thing—kill them intellectually and morally? In other words, make paupers and criminals of them?

Our public schools, far from perfection as they are, would do much toward saving the children of California from debauchery, if they could reach them.

A strong plea is being made for industrial education. While I would be heartily glad to see industrial schools established in every locality where such schools could be carried on, I believe the attempt to teach any form of manual labor in the common schools, under existing circumstances, to be extremely unwise.

With our present short school terms, children in the country districts may, by regular attendance, learn to read, write and calculate *well*. They may become moderately proficient in the use of language. Little more than this can be done; but the child in learning this much may have his faculties awakened, and be trained to habits of application, that will prevent him from becoming either an ignoramus or a pauper.

Although I believe that the introduction of sewing, or anything of the kind into the school, would only embarrass the teacher by consuming time that should be given to subjects there is greater necessity for, I believe there are ways in which the schools might give encouragement to labor.

Not long since the legislature of Iowa passed a law authorizing teachers to set apart at least one day during the term for an industrial exhibition, at which time each pupil was expected to exhibit some article of his own manufacture. I am not informed as to the practical results of this law, but have thought that teachers might make this a method of encouraging industries they are not in a position to teach.

A few days ago, I saw a girl of thirteen

who had been one of my most diligent pupils during the past school term, show to a lady a calico dress very prettily made. The surprised ejaculation, " You did this yourself? I could n't have done as well at eighteen! Girls are so smart now-a-days!" gave the child as much satisfaction as if she had taken a prize for scholarship. Now this girl would have taken pleasure in exhibiting the dress made by her own hands to the school, and other children would be stimulated to do as well or better, or to excel in some other direction. Each pupil could be encouraged to produce such articles as are suited to his taste or ability, and teachers could, by this means, encourage children to do, out of school, what they have not time, in school, to teach them to do. This is a *little* thing we *might* do now, if the legislature would give teachers the authority; and who knows but that it might lead to larger *things* in the future.

"THE FEDERAL LANGUAGE."

Being a Chapter on Americanisms.

BY RICHARD GRANT WHITE.

When the war, incorrectly called revolutionary, had accomplished its object, and the independence of the United States was acknowledged by the British crown, a very strong desire for a distinctive Americanism manifested itself among the people. This was only according to human nature. It was the outward sign of a revulsion of feeling against the nationality which was associated with a tyrannical exercise of power, an attempt to deprive the colonies of their birthright of English liberty. They wished, now that they had achieved independence, not only a distinctive nationality and a distinctive name, but to sever themselves as much as possible in every way from the mother country. The manifestation of this feeling was carried to a great ex-

treme; the desire was for something which was impossible in the nature of things. The traits of race cannot be destroyed; its bonds cannot be broken by political severance. One of the strongest of those traits and most indestructible of those bonds is language. This endures because a people must speak the language that it is born to speak. The continuity of communication between generation and generation cannot be broken; and this makes a language perpetual among a people.

The Normans, it is true, put away their native Scandinavian speech, and adopted a Romanic language, the French; but this singular instance of such a change was possible because they were in France. A comparatively small body of people, mostly men, had changed their country; they were surrounded by French men, and what was more important, by French women, whom they married, and thus they gradually but rapidly adopted the language of their new home. But when they conquered England, notwithstanding their efforts to continue to be Normans in speech as well as in blood and in manners, and notwithstanding their authoritative position, they were obliged in the end to change their speech again, and to adopt the English language. They were again too few to resist the influence of the well-rooted speech of the land and the people which they had conquered. The English language, it is true, had driven out the British from the island; but that was because the English, or Anglo-Saxons, drove out and destroyed the British people and substituted themselves in their place. The Normans did not so drive out and destroy the English, but mingled with them, although as a conquering race; and the consequence was that they themselves became an English-speaking people. Moreover, there seems to be a certain sturdy strength in the English language, as in the English race; an immobility, united with flexibility and

adaptiveness, which gives it great power of endurance, and of conquest over other tongues! It is the only language which has diffused itself all over the world. People born to speak English will not speak any other language wherever they may go, except as an accomplishment, or temporarily, for a specific purpose.

It would seem that our fathers, after they had achieved our political independence, would have changed their language if they could have done so. This, however, they could not do; and they saw that it was impossible. They must continue to speak English if they spoke at all; but they did hope to accomplish the formation of an American dialect of English. We are not left in any doubt upon this point, the written evidence of which remains. Englishmen sometimes nowadays twit Yankees with speaking "American," and the gibe is resented; but it seems that such would not have been the case seventy-five years ago.

Noah Webster, who gave his name to a dictionary which, modified, it is true, almost out of recognition by him as his own if he were now alive, has become what is called an authority even in England, and who was our first thoughtful writer on language and thorough student of it, has left interesting evidence on this point. In his earlier years he himself was one of the advocates of an American language. He wrote a volume of "Dissertations on the English Language," which, published so long ago as 1789, the date of the adoption of that federal Constitution to celebrate which the book inscribed "Federal Language" was borne through the streets of New York, is now little known, but which is full of interest both historical and philological. In this book he takes a decided stand in favor of a new language for the new nation. He says: "As an independent nation, our honor requires us to have a system of our own in language as well as

government. Great Britain, whose children we are, and whose language we speak, should no longer be *our* standard; for the taste of her writers is on the decline. But if it were not so, she is at too great a distance to be our model, and to instruct us in the principles of our own tongue." ("Dissert." I., p. 20.) Again: "Let me add that whatever predilection the Americans may have for their native European tongues, and particularly the British descendants for the English, yet several circumstances render a future separation of the American tongue from the English necessary and unavoidable." (P. 22.) Again: "As a nation we have a very great interest in opposing the introduction of any uniformity with the British language, even were the plan proposed perfectly unexceptionable." ("Dissert." III, p. 177.) And finally: "Customs, habits, and *language* as well as government, should be national. America should have her *own* distinct from all the world. Such is the policy of other nations, and such must be *our* policy before the States can be either independent or respectable." (P. 179.) The italic emphasis is Webster's.

The radical error in all this is the assumption that a language is the result of a deliberate intention; that distinctive customs, habits, and language are the fruit of a policy, and that they may be formed and imposed upon a people in pursuance of a policy. But customs and habits are the fruit of an insensible growth, and language is merely a custom and a habit more ineradicable than any other. Webster's prediction of a future severance between the language of Great Britain and America is, as we all know, not only unfulfilled, but most improbable, and almost impossible of fulfillment. Indeed, the fact is, that the language of the two countries is now more nearly identical than it was when he declared the necessity of a severance between them, and prophesied its accomplishment.

The difference which existed between the language of old England and that of New England when Webster wrote his "Dissertations" was very slight, but it was of a peculiar and significant kind. For it consisted in the fact that the language of New England was, so to speak, more English than that of old England itself. The people who founded the New England colonies not only came from England, but they were, in the mass, of the purest English blood and speech. Of the middle class, and coming generally from the rural districts, they were Anglo-Saxons pure and simple. They spoke the plain, strong, yet poetical English of the Elizabethan or post-Elizabethan period, unmodified by any of those foreign influences which had their effect upon the speech of the higher classes, particularly those who followed the fashion of the court. They were chiefly yeomen, and the younger sons of the smaller gentry, with a slight sprinkling of men of higher station. But they were not a rude or an uninstructed people. They came to New England because they were readers and thinkers, and had formed opinions of their own in religion and in politics. These people, being isolated for several generations, kept their language almost intact as they brought it from their old home. Nor were they subject to the influences which result from the intrusion of foreigners. This was particularly true of the interior parts of the country, those beyond the reach of commerce. Connecticut, for example, was probably at the beginning of this century the most purely English commonwealth in the world. It was filled with an agricultural population of almost unmixed English blood, intelligent, thrifty, staid, attached to the soil, among whom a moderate degree of education was universally diffused. In connection with this subject it is to be remarked that Connecticut has always been the stronghold in New England of the English

or "Protestant Episcopal" church. These New England people spoke the English which their fathers had brought away from England in the times of Hampden and Milton, or a little before, almost without change. In England there had been changes, particularly among the aristocracy. The result was that the English of the Elizabethan period—that great English which is even now looked upon as a standard from which it is well to deviate as little as possible while we yield to the necessities of progress, or at least of change—was spoken more purely in interior New England at the beginning of the century than it was in England itself.

Since that time there has been a change, and it has been toward a greater uniformity of language between the two nations, who are really one people. The increased, and constantly increasing, freedom of intercourse between them, and the interchange of literature—the excess of course being very largely on the side of British books and periodical publications—have been ceaselessly at work in bringing the vocabularies of the whole English-speaking people to uniformity. We have taken much from our British brethren, but they have taken something from us. The same influences, constantly strengthening and spreading, will continue and increase; and instead of the divergence desired and looked for three-quarters of a century ago, the prospect is of such an absolute and general uniformity in this respect as that which now exists between cultivated circles of both countries. Maetzner, the eminent German grammarian, in his great English grammar, cites with equal freedom American and British authors as authorities upon usage in the English language. So much for the introduction of a distinctive Americanism in language.

A class of forty is ready to graduate from the Training Ship "Jamestown."

PLAIN TALKS—SCHOOL ECONOMY.

S. P. GRAY, M.S.

School Economy is a general term applied to the collective body of principles and rules by which the keeping of schools is regulated.* In this connection, however, it will be used in its broadest sense; construction and furnishing of school-houses, apparatus, organization and administration, records, arrangement of classes and textbooks.

To treat these under their respective titles would, perhaps, be the more systematic course to pursue, but it would appear too formal and studied for "plain talk."

In building a school-house three things are always taken into consideration: first, the location; second, arrangement; third, expense. If the district be large, with a probability of the population never becoming equally distributed, the location should conform to the people; otherwise, if the district be small, or so arranged that the population at any time is likely to be equally distributed throughout, the school-house should occupy as near a central location as possible. Care should be taken, however, that the site is a healthy one, with an abundant supply of good water. A central location should, of course, be avoided if in the vicinity of a swamp—a storehouse of malaria, disease and death! In selecting a site for a school-house, let the following order be observed: healthy, pleasant, convenient.

The next step is to determine the position of the building. Let the entry be in the south end if possible. It will then catch the heat of the afternoon sun, and also be free from annoying blasts in winter. It will, in fact, help to regulate the temperature of the school-room at all times. If

it cannot be "set square with the road," and the cardinal points of the compass at the same time, give the road the preference, but by all means, place an index and weather-vane on the roof to overcome its incongruity. As to the materials used, they should be the best that can be procured. The arrangement for the inside of an inexpensive country school-house, best suited to its requirements, is an ample anteroom with one outside door and two inside doors; two windows in front; two washing sinks and water benches, and plenty of hat hooks over the two shelves for dinner-pails. These last should have numbers upon them, and each pupil be required to keep his hat and pail on a regular number. Looking-glasses, wash-basins, combs, and towels are better incentives to cleanliness than an hour's lecture every morning.

The proper place for the bookcase is also in the entry, between the two inside doors. Now pass on, into the school-room proper. Here you see is the teacher's desk, on a small platform just between the entry doors. The rows of desks are all facing toward it and the door, so that the pupils will not be under the necessity of turning around when they hear any one coming in or going out. The teacher's desk is near the door, so that none (be they ever so sly) may pass out without his knowledge; and that blackboard behind the desk with an arched top recess in the center is exclusively for the teacher's use. In the "recess" is the daily programme, showing the hour of each recitation. The two side wings contain the tardy records, while the middle is used for general class work—drawing, writing and instructions for classes. The large board is placed directly opposite the platform in the end where there are no windows. Windows there would prove disastrous to the teacher's eyes; so you see they are placed only in the sides. More blackboards may be placed between

* See Cyclopædia of Education.

the windows if needed. If the walls are "hard finished," all that is necessary is to paint them over with a preparation of liquid slating, and they will last for years. If not "hard finished," paper them with good, strong paper before applying the slating, and the board will be as good as the best.

"Three chairs on the platform?" Yes; you see we have visitors occasionally, and although the new style of furniture is good enough for any one to sit in, it looks better for visitors to sit facing the school. O, you grumbling trustee, who thinks one chair sufficient, into what society do you expect your children are being fitted to enter? That large globe there on the stand in that corner is better than a dozen wall maps. The stand in this other corner contains blocks, cards, and materials for object lessons. This rail on the teacher's desk is necessary to prevent the books from falling off when set up in the most convenient and approved style. The clock must not be forgotten. It is placed directly over the programme, where it ever reminds idlers of coming lessons. Those windows must be supplied with blinds, as the sun at times is positively annoying. Those iron grates on the sides are ventilators. They are placed near the ceiling exactly opposite each other. This causes a draft into which impure air is drawn and carried off. Ventilation should never be neglected. When cold enough to require it, the stove will be placed just back of the center rows of desks. The chimney is in the middle of the room, so you see, there will have to be two elbows and a few extra joints of pipe.

"Now it is complete, what has been the cost?" A mere trifle—two thousand dollars. "How can poor districts raise so much?" Easy enough. Every district contains from one to twenty sections of non-resident land. Vote a heavy tax and either compel them to sell or support your

school. Frequently a few dollars from the pockets of each actual settler would draw several thousand from the land monopolists. Don't be afraid you are paying out money for some one else. It is false; it is they who pay the *greater* share, and it all goes benefit you. It matters not if you have no children, it benefits you all the same.

But the school-house once built, we leave you to liquidate the debt while we once more enter the building.

There are four rows of desks, each row containing ten seats. That will seat a fair average school.

On the first four seats (across the room) should be seated the Fourth Division; on the second tier the Third Division; on the third and fourth the Second Division, and so on until the pupils are arranged in classes across the school-room from the highest to the lowest grades. Be sure to have them so classified that no pupil will be called upon to recite in two consecutive classes.

The advantages to be derived from this arrangement are: 1st. All confusion is avoided arising from calling classes to recite from all parts of the room; 2d. Classes may recite without leaving their seats at all; 3d. The time of coming to and returning from classes will be the same for all, hence no waiting or confusion in being seated; 4th. If classes remain in their regular seats, no time need be lost, and all confusion will be avoided—the same signal dismissing one class and calling another. Of course each pupil will rise and remain standing while in the act of reciting. Besides the regular class exercises, a part of each session should be devoted to the pupils individually, hearing their inquiries and attending to their wants. Only at this time should permission be given them to communicate with each other. Pupils should never be permitted to address the teacher without permission given by means of some silent signal, and not even then, if a class be reciting. The most conveni-

ent signal is a book placed on the pupil's desk, the position of the book indicating the nature of the request.

Allow any pupil who can use the dictionary, to get it at any time when not in use by another pupil, without permission. To avoid the abuse of such a privilege, occasionally inquire what use they are going to make of it. If unable to tell, treat it as a misdemeanor.

A concise, accurate method of keeping school records has long puzzled many ingenious teachers. The most economical as well as the most convenient method known to us at present, is one which, although it has been used by some teachers for years, will, no doubt, be new to a majority of teachers on this coast. All recitations are either *perfect, good, bad, or imperfect.*

Let each pupil's name be written distinctly on the *right* hand page of the register. On the same page keep a regular record of attendance, tardiness, in minutes, and deportment. On the left hand page keep a correct record of each recitation. This is done by assigning each branch a particular space. Suppose a pupil recites in six classes, then his report would read :

* Arithmetic, perfect ; Reading, good ; Geography, bad ; Spelling, perfect ; Grammar, imperfect ; Writing good. It will be seen at a glance that \top means perfect ; \sim good ; \smile bad ; and \frown imperfect ; and the position it occupies indicates the character of the lesson recited. And what have we saved ? Simply the writing of from two hundred to three hundred names and the annoyance of finding the page in the class-book a half dozen times—an item amounting to two days in each month ! These symbols, although simple, are not understood by the pupils, thereby preventing any jealousies arising from a sly peep

* Each teacher can make such marks as he deems appropriate.

into your register, at any time. In making out monthly reports, examinations should be held, and each pupil required to write out a complete synopsis of his knowledge gained in each branch during the month. Compare this with his class record, and give him the advantage of a fair average. Reports should be made out on cards printed especially for that particular school. 100 credits should represent perfection ; 5 off for each tardiness or day's absence. Add the credits in all the branches and divide by the *number* of branches and you will have the general average for the month. Let it be understood that only those whose general average for the *term* shall be a certain per cent. will be allowed to enter the next highest grade, and you will seldom need any other incentive to study.

The treatment of *recitations* and textbooks properly belong to this subject, but as that would make this article too long for these pages, it will be treated of at some future time.

It is not surprising that the Arctic regions present evidences of glacial action on every part of the coast. Boulders, pebbles, and headlands are covered with ice scratches and grooves. Terraces fringe nearly every valley, and have been formed by fresh water banked up by the ice. They rest on marine beds of boulder clay containing sea shells, and are found at considerable elevations, sometimes being more than 500 feet above the sea. This fact is held to indicate elevation of Arctic land in recent times, a movement which is still going on.
—*The Galaxy.*

THE State of Texas has purchased 1,400 acres of land, with buildings and improvements, near Hempstead, for the State University for Colored Youths. The intention is to combine the State University with the Agricultural and Mechanical College.

EDITORIAL DEPARTMENT.

State Uniformity of Text-books.

Shall we continue our present system of State uniformity in text-books, or adopt the plan generally in vogue in the older, more experienced communities of the East and West? This question is to be an active issue in the school legislation of this winter. Already are the book agents from every quarter of the Union gathering for the fray. They scent the spoils from afar, and woe to the unhappy legislator, who holds it a duty to stand manfully at his post, even at the absolute risk of being talked to death.

These fine gentlemen, with their winning ways, plausible statements, and incontestable column of statistics, have to accomplish the important task of preserving intact for two or three third-rate Eastern book houses the entire California school-book trade. For eight years, hundreds of thousands of dollars have been wrung from the scanty earnings of our most deserving citizens—our intelligent, patriotic middle class—to build up the fortunes of Eastern school-book publishers, whose books have been rejected with scorn by the most intelligent communities of our country as utterly without merit, antiquated and worthless.

Let us place this whole question distinctly and forcibly before the teachers, the legislators, and the people of California.

A question of common sense, of simple business wisdom, is this question of text-book uniformity.

Text-book uniformity means the purchase by parents of one book for a term of

years, at the market price. It creates a monopoly in the most obnoxious sense of the word. It gives a school-book publisher as exclusive a monopoly of the market as has the railroad king or land-grabber.

It shuts out that healthy business competition, so essential to the commercial growth and material prosperity of every community.

The favorite argument of the school-book agent, and the one we shall hear dinned most frequently into the legislator's ears this winter, is cheapness. The argument is fallacious in theory and untrue in fact.

Under what circumstances can a purchaser secure the better bargain; when a seller is in active business competition with energetic and progressive rivals, or when he has a many years monopoly? If common sense and the universal verdict of all business operations are not a sufficient answer, we can point to the experience of our sister States, who, having tried both plans, have universally rejected the uniformity system, and adopted therefor, city, or county, and of some even district uniformity.

Their experience, confirmed by our own careful observation, justifies the broad assertion that State uniformity of text-books is in direct conflict with the material interests of our people:

- 1st. Because it hinders and counteracts legitimate business enterprise.
- 2d. Because it tends to produce monopoly.
- 3d. Because it costs the people more.
- 4th. Because it benefits no class of the

community except those school-book publishers, who having the most worthless publications can dazzle the eyes with an appearance of cheapness which use proves to have no substantial foundation.

5th. Because its tendency is to draw large sums of money from our people, and send it out of the State, thereby discouraging and preventing the increase of a useful and valuable industry in our midst—an industry which encourages literature and fosters art and science ; thereby stimulating in manifold measure the highest interests of a growing civilization.

We propose to discuss this subject thoroughly during the coming session of the Legislature, and as legislators will be supplied with copies of the JOURNAL, we invite a full expression of opinion from all really interested in the welfare of our community.

Ecclesiasticism and Our Common Schools.

The Rev. W. H. Platt is an Episcopal clergyman of San Francisco, who believes that our common schools are educating our youth to religious indifference or to positive infidelity. The Rev. W. H. Platt is entitled to his opinion, and is under no obligations to keep that opinion to himself. But when the gentleman makes so sweeping a statement, so serious a charge, he should be very sure of his facts, and be well prepared to substantiate his propositions with definite proofs.

As a close observer of the rise and progress of Education on this coast, as a practical teacher in the free schools, we can demonstrate to the satisfaction of any and every fair-minded investigator that there is no necessary connection between the education given in our common schools and that great increase of infidelity and rationalism which so alarms the reverend gentleman and his coadjutors.

If there is more infidelity here than

elsewhere, it is because our people, old and young, read more than anywhere else on the globe. Would the gentleman discontinue teaching the alphabet ?

Deny it, as he may, teach one hundred children to read, ten at least, will read that which will make them skeptics and doubters.

What is the remedy ?

Certainly not to foster that disposition common in all ages and climes, and not unknown in ours, of thrusting the responsibility from the shoulders where it properly belongs to other and weaker backs.

Mankind is ever prone to find some power to bear its burdens.

If the youth of California are irreligious, why not ascribe the blame where it belongs
—to their parents?

Does not the reverend gentleman and those who for one hundred years have iterated and reiterated the same arguments, now, oh, how time-worn ! admit that parents are the natural instructors of their offspring ? Have they no duties to perform ? Are there no tasks for the eighteen hours of their supervision as well as for the six of the teacher's rule ? What proportion of the parents, in this wide land, will the Rev. W. H. Platt inform us, kneel daily at the family altar, and offer thanks and praise to the Highest ? How many fond mothers take frequent occasion to impress their darlings with the goodness of the Father, and with the power and bounty of his love ?

How many parents instil daily lessons of sobriety, truth, honesty and virtue into the hungry and eager minds of their little ones ? Are these lessons to be best learned in that narrower, more sacred school—the home—or by rote out of the Catechism ?

Teachers *have* a solemn duty to perform to all with whom they come in contact. By example more than by precept, they should impress lessons of truth, of honesty, of physical, mental and moral uprightness

of courtesy and forbearance, of patience and perseverance. But it is neither their function nor have they a moral right to supplant the parent in his most sacred relation to his children.

Moreover, no conscientious parent will allow another, no matter how gifted, to inculcate in his offspring those great truths in which he himself believes as the source of his salvation, and which are his delight as well as his comfort.

For the information of the Rev. W. H. Platt, we will state what our common schools really do. They teach reading and writing, and to some extent arithmetic. They give a smattering of history and geography, and a more or less accurate idea of the meaning and use of words. But above all, they educate the general intelligence and taste of our youth, so as to give them a disposition to read, to investigate, and to think.

If these results militate against the dogmas of any particular sect or denomination, so much the worse for that denomination. California, America, the world, will greet with joy and blessing any system of public instruction which produces the result of investigation, then doubt and then conviction. And the spirit of our age, however hackneyed the phrase may be, demands that spirit and that culture which can consider every side of every subject, and insure on some few points at least, a firm conclusion.

Efficient or Nominal Supervision.

An important question to come before the Legislature, now in session, is the enactment of some reasonable and adequate system of county school supervision.

In no respect is the present school law more radically defective than in the inefficient and illogical provisions made for the office and salary of the County Superintendent of common schools.

No position in the gift of the people is

of more real importance to the welfare of the community. It is graced in many counties of this State by men who, by their culture, general intelligence, energy and integrity, can adorn any position in the commonwealth.

We do not believe that this legislature will produce any man so lacking in intelligence, or with so little perception of what is demanded by the growth and progress of our school system as to oppose any measure which shall tend to increase the usefulness of this office.

As we have shown before in these columns, in many counties of this State, supervision is now merely nominal. The Superintendent visits a school, perhaps once a year, remains half a day, probably less, then is not seen again for another twelvemonth.

Such supervision is worse than useless, but under existing circumstances, is inevitable.

As the law stands, there is no system in the gradation of the salaries of the Superintendents. In some counties, where that official is personally popular and in political accord with the dominant legislative faction, the salary is reasonable; in the adjoining county, with an equal number of school districts, the compensation may be from twenty to sixty per cent. less.

The remedy for this condition of things is extremely simple and equitable. Let the Legislature enact a clause, similar to the one in force in Canada, affixing a salary to the office of County Superintendent varying with the number of districts in the county, but at a minimum of say \$30 for each district. Then a clause should be inserted, providing that the Superintendent shall not pursue any other occupation, while serving in that capacity. We believe the general efficiency of our schools will be greatly promoted by some such action as suggested.

They raise sweet persimmons in Japan.

The State Course of Study.

At the recent Educational Convention held in San Francisco, a resolution was unanimously passed recommending a revision of the course of study adopted by the State Board of Education several years ago.

The State Superintendent remarked that the Board recognized the necessity of a revision, but had delayed action on account of the law passed at the last session of the Legislature, which prohibits the State Board from making any changes of text-books. Whether or not this law is repealed, the State Board should take action in framing a practicable course of study.

The present course for country schools is a detailed course designed for *graded* schools. It is totally impracticable, and is in general, ignored by hard-headed, practical and experienced teachers.

It is, in fact, a dead letter to all intents and purposes. But it makes trouble when some meddling school trustee picks a quarrel with a teacher, and arraigns him for not following the "State Course."

Now, it is of but little use for a State Board to choose a course of study for graded schools. Most graded schools have special Boards of Education, who make their own special course, as they are entitled to do by law.

A course of study for country schools should be general and flexible. It should not attempt to specify the particular page of a text-book to which an over-grown boy should arrive before he is promoted, for this is babyish.

Instead of multiplying grades and classes, it should instruct all teachers of ungraded schools to make as few classes as possible.

Above all, in outlining this course, somebody should be consulted that knows something about isolated country schools; that has taught in them and visited them;

that knows the limitations of the country teacher.

The main things to be taught in these schools are: 1st. Reading; 2d. Writing; 3d. Spelling; 4th. Arithmetic—*to include the four ground rules, the tables, common and decimal fractions, and simple interest*; 5th. Geography; 6th. Grammar and composition writing.

Let the State course look after *essentials*, leaving the *incidentals* and *extras* to the teacher.

A practical, common-sense course is what is wanted—one adapted to both teachers and pupils; not a psychological course, long drawn out in accordance with the refinements of metaphysicians.

An Earnest Request.

Will Superintendent and teachers call the attention of District Trustees to the resolution of the State Board of Education, authorizing them to subscribe for the JOURNAL for the District Library? They can pay the subscription from the Library Fund. Large numbers of orders have been received by us from this source, and we hope to increase them until every school district in California is on our list. The JOURNAL is already valuable to teachers and pupils, and we shall strain every nerve to make it more so.

Let every friend of the JOURNAL exert himself actively, and in this way double his own subscription.

Corrections.

In the list of newly elected County Superintendents in the November number of the JOURNAL, a few errors unavoidably crept in. The name of the Superintendent-elect of San Bernardino County is J. A. Rousseau, not C. R. Paine, as one of the local papers had it. The Superintendent-elect of Placer spells his name Seavy. The Post-office address of Superintendent-elect

Davis of Sonoma is Santa Rosa, not Sonoma.

A rare literary treat is in store for the readers of our January number in the shape of a number of excellent contributions. A very interesting letter from one well-known and deeply respected in California educational circles, Prof. George W. Minns, now of Concord, Mass., heads the list; Prof. A. W. Oliver follows with an eloquent and incisive plea for moral training in our schools; S. S. Boynton has a graphic and chatty sketch of a vacation camp in the Sierras; an excellent and timely article on "Some of the Duties of the Friends of our Public Schools," from the pen of Superintendent Steel, of Yuba; a perfect little gem of a school play from Charles H. Shinn, who, by the way, has a poem in the December number of the *Atlantic Monthly*; a readable and appropriate article from Z. L. Kay, on "Teachers' Obstacles"; the second part of "Schools and School Laws of Many Lands," by Prof. Le Vaux, to whom the profession will be glad to listen periodically through our columns. These are but a few of the excellent MSS. we have for immediate publication.

THE following interesting circular was received in November, from Hon. J. P. Wickersham, State Superintendent of Pennsylvania, and President of the Department of Superintendence, National Educational Association. We hope the Pacific Slope will be represented at this meeting, which is of national importance. Without in any way aiming at centralization, the National Educational Association has done much, and this meeting of the most prominent State Superintendents of the Union will doubtless do still more, toward harmonizing and unifying the educational systems of our country.

A special meeting of the Department of Superintendence, National Educational As-

sociation, will be held in the lecture room of the Congregational church, Washington, D. C., commencing on Tuesday, December 11th, and continuing three days.

Important business will be transacted concerning measures for strengthening the National Bureau of Education, the establishment of a National Educational Museum, the proper representation of the educational interests of the country at the Paris Exposition, the appropriation of the proceeds of the public lands to school purposes, and others equally important.

Papers are expected to be read by Hon. John Eaton, United States Commissioner of Education; President J. D. Runkle, of Massachusetts; Hon. William H. Rutherford, of Virginia; Hon. Jas. H. Smart, of Indiana; Hon. William S. Thompson, of South Carolina, and others. Leading officers of the Government, and Members of Congress interested in education, have been invited to take part in the deliberations of the Department.

No more important educational meeting has ever been called together in the United States, and it is hoped that every State in the Union will be represented by its leading school officers. A full programme of exercises will be issued as soon as it can be prepared.

The rates for boarding at the Ebbitt House, to Members of Department, will be \$2 50 per day.

JAMES P. WICKERSHAM,
President.

ONE of the most enjoyable and valuable lectures delivered at the recent session of the State Educational Association was on Elocution, by Prof. Ross, of this city. Both in theory and practice did the Professor prove himself a master of his art. His address of an hour appeared not one-fourth that length.

A feature in the heated discussion on Industrial Education, at this meeting, was the few earnest and eloquent remarks, by Charles H. Shinn, pleading for the higher intellectual education. Mr. Shinn's remarks, though opposed to technical education, were so courteous and so considerate to those who were unfortunate

enough to be on the opposite side, that they did not receive the attention they merited. Mr. Shinn is one of California's rising authors ; to undoubted poetic feeling he adds that love of nature and that felicity of thought and expression, which under any garb distinguish the true poet. We are proud to number him as one of our most regular contributors.

Owing to the illness of the editor of the JOURNAL, we cannot present our usual variety of matter this month. Quality, however, makes ample amends for quantity and variety both.

The leading article, by Prof. Le Vaux, is one of the best ever published in our pages. John Swett's sentences are ever pregnant with interest and benefit to education. Few educational journals in the Union can boast of as practical and interesting an article as our illustrated article on Light, copied from the *Popular Science Monthly*. Prof. Ingham is an acquisition to this coast ; from him our teachers can learn much, and we congratulate ourselves not only on his article in this number, but on other valuable notes and suggestions from his pen. And so on through our entire table of contents. We think we shall convince our teachers that every promise made in our first number is kept religiously, in letter and in spirit—that we believe truly that honesty is the best *policy*.

We have received the Report of the Mass. Inst. of Technology for 1876, by President Runkle. The class leaving this year was the largest ever graduated—numbering forty-four. There are ten departments in the Institute, viz: Civil Engineering, Mechanical Engineering, Mining Engineering, Architecture, Chemistry, Metallurgy, Natural History, Physics, Science and Literature, and Philosophy. The number of pupils in civil engineering is more than double that in any other department. The char-

acter of the graduating theses in the different departments may be judged of from the fact that several were published by the American Academy of Arts and Sciences ; several by the Boston Natural History Society, and several by the *Journal of Speculative Philosophy*, of St. Louis. This speaks well for technical education, and shows that pupils that graduate at this Institution are good for something when they get through.

We see that the Sacramento Board of Education have taken up the subject of school studies, with a view to eliminate some of them, so that there may be no necessity for out-of-school study in order to keep up with the classes. How much study is required out-of-school hours in Sacramento we are not informed, but in this city, pupils, even in the fifth grade, are obliged by some teachers to write by lamp-light from one to two hours. Punishment work for not learning lessons or for misconduct, is imposed upon pupils here that requires that amount of work in the evening. The wisdom of this work for pupils below twelve years of age, is a subject for the reflection and decision of Boards of Education.

To Supt. R. H. Bramlet, of Fresno, we return especial thanks for an additional batch of subscribers sent us a week ago. Mr. Bramlet has given us material assistance in his section. Z. L. Kay, one of the ablest teachers in Southern California, also comes in for a share of grateful recognition for similar favors. Prof. O. S. Ingham sends us a list comprising the entire corps of teachers in the Healdsburg schools. From Northern California, Supt. Duenkal has interested himself actively in our behalf.

THE pretty little song in this number of the JOURNAL is from the December *S. Nicholas*.

THE Oakland City Department, second only to San Francisco, at the suggestion of Supt. Fred. M. Campbell, takes the JOURNAL for each school.

Sacramento city, on motion of Supt. Hinkson, has already subscribed for a number of copies, and more are promised. In addition, we constantly hear from old friends from every part of the coast, and receive new names in satisfactory numbers. Thus bravely progresses the work !

Who comes next ?

THROUGH the courtesy of D. Appleton & Co., the eminent American scientific publishers, we are enabled to present our Pacific Coast teachers with a portion of the illustrated article of Miss Youmans', "Simple Experiments in Optics," as it appeared in the *Popular Science Monthly* for November. The cuts were kindly forwarded us from New York, and the article will, we trust, prove not only interesting but useful to progressive teachers in the school-room.

WE have received, too late for insertion in our December issue, a number of interesting articles which will appear in January. Notable, are a valuable contribution from the Hon. A. P. Marble, Superintendent of Worcester, Mass., on the Metric Tables of Weights and Measures, articles from Supt. T. H. Steel of Yuba County, from Z. L. Kay of San Diego, from Prof. Le Vaux of Nevada, from Mr. Drake of San Diego, and several others.

IN answer to occasional complaints of the non-receipt of the JOURNAL, we have only this to say : we take especial pains to make no mistakes ; every JOURNAL subscribed for, goes. Of course, where subscribers fail to receive a certain number, we remail it as soon as possible. But we wish our subscribers to understand that failure to receive does not imply any negligence on our part.

To our friend and fellow-teacher, S. S. Boynton, of Butte County, we are not only indebted for some of the most pleasant and readable articles yet published in the JOURNAL, but for a large batch of subscribers from the Butte County Institute.

GENERAL NOTES.

THE School Superintendents of New England held their semi-annual session at Boston, Mass., October 27th, when Secretary Dickinson and State Superintendent Conant read valuable papers.

THE King of Sweden has made the University of Upsala a donation of 40,000 crowns, the yearly revenue from which is to be distributed as premiums to young authors of scientific works.

MR. MIR ANLAD ALI, professor of Hindoo-stanee at Trinity College, Dublin, recently had to take an oath in court, and was sworn on the New Testament, observing that he would take the oath on either of the Testaments or on the Koran, believing all three to be inspired works.

THE next session of the National Educational Association will not be held until August '78 ; but St. Louis and Philadelphia are already quarreling for the privilege of entertaining it. Go West, gentlemen ! Compromise by coming to San Francisco, and we'll give you a right royal Californian welcome.

BARON VON HUMBOLDT is surpassed. That celebrated traveller, in making the ascent of Chimborazo, attained the highest point ever reached by the foot of man. M. Charles Wiener, who is charged with a scientific mission by the French government, has just ascended Mount Illimani, in South America, a height of 20,112 feet, while Chimborazo measures only 18,000

feet. M. Wiener, exercising a right consecrated by custom, has given that point on which he was the first to set foot the name of the Peak of Paris.—*Harper's Bazaar.*

THE thirty-first annual meeting of the Connecticut State Teachers' Association was held in Hartford in the latter part of October. The session is said to have been a very valuable one. Many able essays were read, and an interesting though brief address was made by Governor Hubbard.

THE California University has 314 students; forty-nine of them women. The total receipts of funds for the past two years were \$450,821.65; the disbursements, including investments in bonds and seminary land fund and deposits in banks, \$456,197.38. There are 14,000 volumes in the library.—*The Independent.*

IN a recent report of the New York Society for Improving the Condition of the Poor it is recommended "that the right of suffrage be denied to every individual receiving relief for himself or family from the public funds, as a proper check upon the spread of pauperism." It certainly does appear that permanent pauperism is getting to be about as respectable as industrious independence.—*Harper's Weekly.*

THE University Mound School, John Gamble, Principal, gave a very interesting exhibition at Pacific Hall on Thanksgiving Eve. The two comedies, "The Seven Clerks," and "Scenes in India," were performed, in which "Simon" brought down the house by his drollery and local hits. The class of gymnasts gave some marvellous displays of agility, strength and muscular development, and were a credit to their teacher. If good food—plenty of it, good mountain air and water, and such muscular training, together with a good home, does not turn out some efficient students

from this school, we miscalculate hugely on the effects of roast beef and Indian clubs.

PROF. E. O. VAILE, already well-known as an able writer, and as one of the most prominent educators of the Union, delivered an elaborate and scholarly address before the Ohio State Teachers' Association, on the subject of "Spelling Reform." Prof. Vaile's treatment of the subject was logical and exhaustive. The address has been published in the *Educational Weekly*, and is now to be brought out by Brown & Co., New York, in pamphlet form.

THE *New England Journal of Education* observes with reference to objections to a Greek course for girls in the Boston High Schools, made by Prof. Everett of Harvard: "The long-controverted question concerning the forbidden fruit of the tree of the knowledge of good and evil, appears to be solved by Mr. William Everett, of Harvard College, who declares the Greek *root* the one infernal thing to be feared by the mammas of Boston girls."

THE crystalline lens of the eye of the codfish is found by the microscope to consist of above five millions distinct fibres. These fibres are furnished with teeth like those of a watch wheel, and the teeth of the adjacent fibres lock into each other. Now, there are 62,500,000 of these teeth; each tooth has six surfaces, which come into contact with the corresponding surfaces of the adjacent teeth, so that the number of touching surfaces is 365,000,000.

VICTOR HUGO'S "History of a Crime," which is now being published as a serial in *Harper's Weekly*, is immensely popular. Soon after the issue of the first volume—the second volume is promised early in December—the edition was exhausted, and not a copy could be obtained. A cheap edition was then issued, twenty

thousand copies of which sold in Paris in a single day. The work would be famous from its literary power, independent of its historical value. The style is simple, but the narrative is of absorbing interest,

WHILE the Compulsory Education Law is a dead letter on our California statute books, the Italian Parliament has voted in favor of it, and all children up to the age of nine years, at least, must hereafter attend the public schools, unless it can be shown that they are receiving an equivalent education at home, or in private schools, or are in feeble health. The fine for failure is ten cents, and it rises to a maximum of \$200 for subsequent offences. Instruction is confined to the most elementary knowledge—the first notions of the duty of man and the citizen, reading, writing, the rudiments of the Italian language, of arithmetic, and the metric system.

ALREADY the new English system of public school education tells favorably on the public morals. In illustration of this, the London *Sunday-school Chronicle* quotes Mr. Wetherhead, governor of Holloway Prison, as saying that "the number of juvenile criminals has steadily diminished, so that in place of 136 males and twenty-one females sent to that prison in 1869, there were in 1876 only twenty-eight males and no females." It pays to look after the children. It is cheaper to educate them as scholars, than to punish them as criminals. A school-house costs less and does more for the public protection than a jail.—*S. S. Times.*

FEW persons realize the enormous amount of steel annually consumed in the manufacture of pens, diminutive as these objects are, while at the same time there are few objects of metal that serve a less important purpose after they have been used. Most pieces of metal can be made

to yield something of their cost as raw material, but we never hear of any one saving a worn-out steel pen for any further purpose. The importance of economy in this direction led a German inventor, Mr. Reisenbichler, to entertain the idea of making a steel pen pointed at both ends, so as to double its durability, and on the same principle to reduce by one-half the proportionate amount of material. He has accordingly patented a pen of this kind, and proposes to enter upon its manufacture. The pen can be used in any holder, but he has devised one of special construction for more conveniently inserting and inverting the pen itself.—*Harper's Weekly*

AMONG the many cruel disciplinary measures, invented by indolence and incompetence on the part of parents and teachers, none is more reprehensible than the use of *harsh words*. In the shape of scoldings, they merely prove that the educator has lost patience and lacks self-control ; in the shape of violent revilings, they give evidence of inner coarseness and want of humanity ; as threats, they are the weapons of a despot, who is too cowardly or too indolent to use his power of punishment ; and in the garb of sarcasm or irony, they are manifestations of a character, whose malice is powerful enough to press even intellectual refinement into its service. In all cases, they are the out-croppings of a faulty or vicious disposition ; they are, therefore, unable to lead to virtue, but will plant and nourish in the mind and hearts of their young victims evil germs of hatred, and stifle or dwarf the growth of germs of love.—*The New Education.*

THE death of Leverrier was lately announced by telegraph to the Smithsonian Institution as having taken place on the 23d of September. This eminent astronomer was born in Normandy on the 11th of March, 1811, and in early life he devoted himself

to chemistry, and published several essays on the compounds of phosphorus. He, however, soon turned his attention to mathematics, and at the age of twenty-eight wrote the memoir upon the "Motions of the Planets Jupiter, Saturn, and Uranus." His first great triumph as an astronomer was in determining by mathematical calculations the existence of a planet outside of Uranus, and influencing its movements. He pointed out the position of the new planet within two degrees of its true place. The region indicated was eagerly explored by astronomers, and the planet itself discovered very shortly afterward. In 1853, Professor Leverrier became Director of the Observatory of Paris, which he held until 1870, when he resigned. He was re-appointed in 1872, and occupied the position until his death.—*Harper's Weekly.*

GOVERNOR VANCE, of North Carolina, some time ago recommended to the Legislature an appropriation of \$2,500, for two years, to maintain a State Normal School for the colored people of that State. He called a conference of the leading colored men of the State, to settle upon some location. They chose Fayetteville, and the school has been established there and is in successful operation, conducted by colored men. In Raleigh, a special tax has been levied for two graded schools, one colored and one white, to be maintained ten months in the year. In the colored school four colored teachers and four white are employed, and no attention seems to be spared to make the school efficient and prosperous. Thus the fears of a portion of the colored people, that they would lose all their privileges of education and even of citizenship, on the accession of the Democracy to power in that State, are dissipated. Governor Vance has proved their true friend, and much seems to be done by the State for their improvement.—*S. F. Call.*

A NEW suggestion as to the length of time man has occupied the earth is based upon the fact that the Chinese, Indians, and Arabians at a very early date counted only twenty-eight moon stations, or mansions of the moon. Now the lunar month contains twenty-nine and a half days, and the fact that these ancient people never counted as many as twenty-nine mansions of the moon may indicate that at the time the first observations were made the lunar month had not yet increased to twenty-nine days. If the prolongation of the lunar month depends solely upon the retardation of the earth's speed of rotation, and the latter amounts to twenty-two seconds in a century, as authorities now assert, no less than 600,000 years must have passed since the lunar month had twenty-eight days only. This gives an unusually long date to the existence of the human family. The fact that it is based on the assumption that astronomical observations were made so long ago as that need not lead to the supposition that man was very far advanced intellectually. The Indians and other races, still in the rudest stage of development, do all their reckoning of time by moons.—*The Galaxy.*

LAST week the National Academy of Sciences held its semi-annual meeting at Columbia College in this city. The sessions covered three days, beginning Wednesday. On the first day General Abbott gave the conclusions at which he had arrived concerning the rate of transmission of earth-tremors caused by great explosions like that at Hallet's Point last fall. The rate is much swifter than has heretofore been supposed. Prof. Loomis, of Yale, read an elaborate paper on the development of storms, and his conclusions have already called out dissenting opinions from other meteorologists. Prof. Henry, of the Lighthouse Board, gave an interesting account of the system of sound and fog

signals. Prof. Alexander Agassiz read an essay on the development of flounders, which, however repellent in title, proved most entertaining in substance. On the last day the academicians were invited to witness some experiments in the chemical room, including the electric candle. Prof. Marsh naturally enlarged upon his favorite Dinosaurians of the Rocky Mountains, devoting himself particularly to the largest of the land animals found in what is known as the Dakota Group. The sessions were well attended, and have attracted much interest among scientists, amateur and professional.—*Christian Union.*

THE Consul of the United States of Colombia in the Department of Loreto (Peru) has written from Yurimaguas to President Prado, informing him that in the woods adjacent to the city of Moyobamba there exists a tree called by the natives Tamia-caspi, (Rain-tree) which possesses some remarkable qualities. It is a tree about fifteen meters (about fifty feet) high when at maturity, and of about one meter in diameter at the base, and has the property of absorbing an immense quantity of humidity from the atmosphere, which it concentrates and subsequently pours forth from its leaves and branches in a perfect shower, and in such abundance that in many cases the ground in its neighborhood is converted into a perfect bog. It possesses this curious property in its greatest degree in summer, precisely when the rivers are at their lowest and water most scarce ; and the writer of the letter proposes that it should be planted in the more arid regions of Peru for the benefit of agriculturists. This is not the first time that the power of condensing moisture, and throwing it off in drops like rain, has been ascribed to plants in tropical regions. Humboldt says of the Edible Arum (*Colacasia esculenta*) that "it literally distills water and launches tiny drops in the form of a jet from the pores

at the end of its magnificent heart-shaped leaves. A careful and ingenious observer ascertained that from ten to 100 drops of water were thrown every minute to a distance of an inch or more." Prof. Schele de Vere remarks, in his "*Wonders of Vegetation*" : "There can be no doubt that a real weeping tree (*Cæsalpina pluviasa*) was seen some years ago in one of the Canary Islands, from the tufted foliage of which water fell like copious rain."—*Christian Union.*—

THE AUTUMN INSTITUTES.

BUTTE COUNTY.

An exceedingly interesting session of the teachers of this county was convened in Chico, Tuesday, October 30th, and continued for three days. Supt. Arthur McDermott presided, assisted by Vice-Presidents Norman of Cherokee, and Ashbrook of Dayton. S. S. Boynton, of Oroville, was elected Secretary, and Miss Cushman, Assistant Secretary.

The opening address by Supt. McDermott was an interesting history of the schools of Butte County from their organization in 1853 to the present time. The experience of one teacher still in the school-room, Mr. W. Y. Bliss, is then quoted in the address. Mr. Bliss says : "I taught in 1853, 1854, and 1855. I was the first teacher employed by a Board of Trustees on the east side of Feather river, if not in the county. I had taught one summer and six winter terms before coming to California. The first term was thirty-eight years ago this coming winter."

We shall make further extracts from this address at some future time.

Addresses were made by State Supt. Carr, and Prof. Allen gave his usual able lectures, and instruction in the theory and practice of teaching.

The amount of good accomplished by Prof. Allen at the institutes of California, for the past six years, is simply incalculable. We are glad to see and hear that teachers all the State over, are beginning thoroughly to appreciate and benefit by his labors.

The subject of spelling was introduced and illustrated by Mr. Batchelder ; Mr. Ashbrook explained an excellent method of teaching composition. Grammar was, as usual, thoroughly discussed. The marked feature of the debate

was the almost universal expression that grammar, or rather the correct use of language, must be taught largely without a text-book.

The usual resolutions were passed. Among them one highly complimentary to Arthur McDermott, the retiring Superintendent, was well deserved. Another, severely rebuking an uncalled-for and false statement by the Rev. Jesse Wood, the Superintendent-elect, before a church convention, that three-fourths of the teachers of California are little better than infidels, aroused animated discussion, and was finally passed by a vote of 38 to 3. The institute then adjourned.

SANTA CLARA COUNTY.

The Teachers' Institute, held on October 30th, 31st, and November 1st, at the State Normal School building, San Jose, was, we believe, the most valuable and interesting institute ever convened in this county. It was well attended, but two or three teachers of the entire county being absent.

County Supt. Rousseau presided over the exercises of the session. Messrs. L. J. Chipman, J. G. Kennedy, and J. B. Finch were elected Vice-Presidents, and A. A. Smith and Miss Z. E. Cornelius, Secretaries.

The first exercise was a talk on Reading, by S. P. Gray, which elicited considerable discussion, as did an exercise which the same gentleman gave on fractions.

Two excellent lectures were given by Profs. Moore and Norton of the Normal School. The former spoke on Geology, the latter on Chemistry —illustrating with experiments.

The other notable lectures of the session were by Supt. Rousseau, on the subject of "Kindergarten and Industrial Education," urging upon teachers that they do not so much teaching but better teaching, and advocated the adoption of industrial schools in connection with the present system, and Kindergarten schools for all children under eight years of age. His address was well received, and his suggestions are both timely and practical.

Mrs. Mary Gunning gave an instructive and interesting talk on the botany of the Pacific Coast. She exhibited some very rare specimens, obtained in various sections of the State. During the recess which followed, many of the teachers examined some specimens with the microscope.

Prof. Finch gave an exercise on Language and the study of Grammar; Miss Z. E. Cornelius gave an exercise on composition; Prof. Braly, of the Normal School, gave a lecture on Natural Phil-

osophy, with experiments. Mr. A. A. Smith illustrated his method of teaching interest by cancellation. Mr. Lighthall gave an exercise on drawing, explaining the system used in the San Jose schools.

We have reserved the principal address of the Institute for the last mention. We refer to a masterly discourse on "Education and its Abuses," by Prof. A. W. Oliver, of Gilroy. It is impossible at this time, and in our limited space, to do even scant justice to the address. We propose to present it entire at an early day. Prof. Oliver, also, made a very able and practical address on Anatomy, Physiology, and Hygiene.

The resolutions passed unanimously by the Convention were to the effect that the State Course of Study requires cutting down; that, as far as practicable, we introduce into our school-rooms materials from the arts to make our teaching more practical; that the teachers in our public schools should be morally, as well as intellectually, models for the imitation of their pupils; that we recommend the establishment in some town, of a county industrial school, where wayward children may be taught the essential branches of education, and how to make a living. The same should be so conducted as to be reformatory in its tendency, and, as far as possible, self-supporting.

In addition, thanks were tendered to the Normal School Trustees for the use of their building, and to Supt. Rousseau for the "efficient and impartial manner in which he has presided over us."

The report was signed by the Committee: James B. Finch, Benj. R. Foss, A. W. Oliver, Kate Moody, H. F. Dusing.

THE STATE BOARD OF EDUCATION.

The State Board of Education met in San Francisco October 26th, during the session of the State Teachers' Association. There were present State Superintendent Carr, Superintendents Lynch, Bolander, Landes, Rousseau, and Dunbar. Life Diplomas were granted to the following teachers, all the legal requirements having been complied with: W. H. Hobbs, Charlotte M. Barry, James Wideman, Mrs. D. M. Coleman, George C. Hall, James O.

Blakely, Esther Goldsmith, Mrs. E. P. Bradley, Annie J. Shaw, Hattie L. Wool, E. M. Warren, John F. Jordan, Caroline M. Sisson, Mrs. H. R. Stevenson, Henrietta Sumner, Mrs. E. S. Viendall, Vestal E. Bangs, Mrs. J. V. Thurber, E. M. Cressy, R. P. Davidson, Mrs. Alice David, W. J. Clark, and Albert Lyser.

A California book, entitled "Overcome," was added to the Library List.

On motion of Supt. Lynch, it was unanimously resolved to place THE PACIFIC SCHOOL AND HOME JOURNAL on the list of library books.

It was voted that Mills' Seminary be incorporated, in accordance with the application made October 11th, 1877.

The Board then adjourned.

ITEMS FROM STATES AND COUNTIES.

STATE OF NEVADA.

Flora Northrop leads the roll of honor in the Reno Grammar-school for September and October, marking 100. Julia Wintermantle just missed it.

Wadsworth school, F. G. Butler, Principal, has a "Roll," also, and Carrie Raphael heads it with 96 per cent.

The Dayton public school has opened with Prof. J. Casebeer as Principal, and Miss Minnie Leslie as assistant.

OREGON.

The Bishop Scott Grammar-school, in Portland, was burned on Thursday night, Nov. 15th. Loss, \$20,000; insurance, \$10,000. Supposed to be the work of an incendiary.

The State University now presents a cheerful outlook. More than 200 students in attendance, which speaks well for a college so young.

The new school-house in Eugene City is nearly finished, and will soon open with a full corps of teachers.

Prof. T. F. Campbell, of Monmouth, and Prof. I. W. Pratt, of Portland, were elected at the last meeting of the State Board of Examination, which meets semi-annually at Salem, on the first

Monday of January and July.—(*Salem Willamette Farmer.*)

Union, Union County, is having a fine brick school building erected.

The upper school-house, Albany, has been opened, with Thos. M. Colloway as teacher. The other schools were so crowded that a new school was demanded.

The tax-payers of the Jacksonville school district have just voted a tax of five mills on the dollar, with which to run a free public school for the remainder of the year. The vote stood 48 to 1.

CALIFORNIA.

SAN FRANCISCO COUNTY.

Quite a little breeze was caused in November by the arrest of Mrs. A. E. Du Bois, Principal of the Clement Grammar School, on complaint of an irate mother, for too severely battering the pet of the family. The evidence on trial proved that the boy deserved punishment, got it none too severely from Mrs. Du Bois, and that the injuries complained of, were in all probability inflicted by the mother herself.

The Board of Education unanimously sustained Mrs. Du Bois, Mr. Fisher Ames, one of the members whose terms had just expired, acting as her counsel. President Clement testified in her behalf, and caused great amusement by his characteristically caustic and humorous replies to an attempted cross-examination by the prosecuting attorney. Mrs. Du Bois was acquitted with no hesitation on the part of the jury. The verdict gave general satisfaction to all friends of education, for a more undeserved attack on an estimable and highly capable teacher, was never perpetrated in this city, where, for more than twenty years, Mrs. Du Bois has been recognized as a leader in the educational ranks.

A number of the large grammar schools, notably the South Cosmopolitan, the Washington, and the Columbia, are actively preparing for public entertainments, to raise money to purchase pianos, etc.

The late Board closed their terms to the deep regret of nearly the entire Department. They were fallible—have made a few serious mistakes—but on the whole, the two years of their administration were marked by a careful and wise expenditure of the public funds, liberal treatment of teachers, a general progress of pupils,

and a smooth movement of the whole educational machine. May their successors do as well.

The new administration begins well. One of the first acts of Superintendent Mann was to refuse to sign the warrant of a teacher, who held a position in the department without holding the proper certificate therefor. Appointed by influence—of course.

Miss Manning's article, "Hints for a New Manual," in our November number, has elicited considerable comment, universally favorable, among the teachers of the department. We hope to hear again and frequently from Miss Manning, who is not only distinguished as a teacher of rare merit, but as a writer of equal ability. She has been principal of one of our largest and most successful primary schools for nearly ten years.

Miss Webster, lately from Honolulu, and well-known in the East as a fine teacher and writer on educational subjects, is at present in the city. We believe she is seeking a position in the schools.

Mrs. Merrill, a teacher in the Denman School, was taken to the Napa Asylum a week ago, a raving maniac. Cause unknown.

NAPA COUNTY.

Having a week's vacation, the writer determined to spend the time in visiting some of the schools in the county, and learn what they were doing. So Monday, October 1st, found us ready for action, and at 9 A. M. we unexpectedly arrived at the Harmony district school-house, just in time to see the teacher—Miss Shaw—marshal her little army for the opening of the day's labor.

We found here between thirty and forty scholars, and were well pleased with the order and earnestness of the teacher and pupils.

We next directed our course to the Buchanan district. Arriving, we fastened our team, and proceeded to inspect the premises. But we were doomed to disappointment. Not a scholar or teacher was to be seen; and the school-house looked lonesome. We learned on inquiry that the teacher had been taken sick that morning, and that explained the matter. Though we did not visit, we learned that the teacher was giving very good satisfaction, a fact that we are always rejoiced to hear.

The next point of attack was Oakville. Here we found twenty scholars, under the care of E. A. Parker. Our advent among them was a surprise, as we were supposed to be teaching twelve

miles away. They had seen us before, therefore were not very badly frightened.

Tuesday, 9 A. M., found us at the school-house in St. Helena. In point of number, this is the second school in the county. Mr. N. A. Morford the Principal, is a graduate of our State University, and has had several years experience in teaching. Mr. Morford has instilled new life and energy into the school. Though the school-house is very badly arranged, yet much has been done to improve it: more room has been provided, and an additional teacher employed. Three assistants are employed, making four teachers in this district.

They have some two hundred and thirty scholars enrolled. The teaching, in all the departments, is well up with the times, the discipline good, and the whole machinery seemed to be well adjusted, and working finely. We noted, with pleasure, that the Principal had prevailed upon the Board to supply some new and very useful apparatus, and hope that they will continue to second his efforts. If this is done, we can see no reason why they may not continue to have, as they now have, one of the best schools in the county.

A drive of nine miles brought us to Calistoga. After supplying the inner man, that we might be in the most amiable mood possible, we hastened to the school-house. Unannounced, we ushered ourselves into the Principal's room, while he, absorbed in his work, was unconscious of our presence, till an ominous titter, and the snapping of several fingers by the pupils, announced the advent of a stranger into their fold. The Principal G. W. Weeks, and his assistant have but just commenced their labors in this school. The school numbers one hundred and thirty pupils, and we were pleased to note a marked improvement since our last visit, especially in the Principal's room.

Returning to St. Helena, we spent the night with a friend. A ride of ten miles brought us to the Conn Valley school-house, just in time for school. Mrs. Hardin, the teacher, and her eight or ten scholars were busy, and seemed to be doing well. We remained but a short time, and again took up our line of march.

The next point reached was Chiles Valley district. The teacher and her pupils were very busy, and quite profitably employed—eating their luncheon. As it was noon, both we and our horses began to feel the necessities of the hour, so we did not wait for the re-assembling of the

school, but hastened on our way searching for that wherewith to relieve the demands of an empty stomach.

During the afternoon we called on Mr. Mitchell of the High Valley district; and Mrs. Emma Mitchell of the Hardin district. Both of these are small schools, but seemed to be doing their work well.

Thursday, we called on Mrs. Mary Mitchell of the Pope Valley district, Miss Kate Ebersole of the Upper Pope Valley district, Miss L. Duhig of the Howell Mountain district. Pleasant schools and doing very well so far as we were able to judge in the limited time allotted to each. Night found us once more in St. Helena.

On Friday morning, we paused on our way home, and dropped in on Mr. Wolverton, at the Liberty district, and found the school pursuing the even tenor of its way. Arriving at Napa at 12 M., we endeavored to divest ourselves of sundry and divers coats of dust; and again, at 1:15 P. M., we hastened on our way, that we might make the last of our fashionable calls at the Suscol district. Here we found Miss V. Patchett with her day's labor almost finished. But she entertained us courteously and thanked us for the call. But whether she thanked us for its *brevity* or *length* we were unable to decide. This closed our calling, having driven about 180 miles, and, as you observe, called on thirteen schools.

L. FELLERS,
County Superintendent.

SISKIYOU COUNTY.

Supt. Duenkel attended the State Teachers' Association, and is warm in his praises of the good things enjoyed. His work on Primary Arithmetic has already been mentioned in the columns of the JOURNAL, and is meeting with a large sale in this county. Mr. Duenkel is supplying most of the school libraries with the books. A good deal can be said in favor of the plan of the work, while certainly nothing can be said against it.

One thing, perhaps, Siskiyou teachers need more than anything else and that is a greater unanimity of feeling and action. Can we not have it?

The County Board of Examination is composed of Wm. Duenkel, Superintendent, and Messrs. Rice, Hartz, and Morse.

J. E. Putman, W. L. Nutting, Miss Wheaton, and Miss Peck have charge of the Yreka schools. A good attendance is reported.

Miss O'Neil is principal of the Fort Jones school. She has lately returned from the East after an absence of several years.

Mr. Oman has charge of the school at Little Shasta.

Miss Hattie Hager is, for the second year, teaching school at Hawkinsville.

Mr. Rice is located at Cedar Park. He has a pleasant school, and enjoys his work.

Mr. Powers is wielding the rod at Cottonwood.

Mrs. Oman passes part of her time in the Table Rock school, the rest with her husband.

Mr. Hartz teaches in Scott Valley.

Mr. Von Schmieden presides at Bogus, and is delighted with his work, although it is his first term.

Mr. Abbott has charge of the school in the Douglas district, and reports an unusually good attendance and deportment.

Mr. Sharp supplies the Oro Fino school for the second term.

Mr. Morse, Superintendent-elect, is teaching at Willow Creek.

Mr. Nichols is engaged at Butteville.

Miss Kate Cooley is teaching at Humbug.

Mr. Duenkel has started a private school in Yreka.

Siskiyou County has thirty-six schools.

HUMBOLDT COUNTY.

Superintendent-elect Casterlin of this county and his estimable wife spent a portion of their October vacation at the State Normal School in San Jose, in visiting the San Francisco schools, and in attending the State Teachers' Convention. Mr. Casterlin was Assistant-Secretary of that body.

Mr. James M. Dickson has resigned his position as teacher of the Trinidad school, much to the regret of that people, for the purpose of engaging in business at Ferndale.

ALAMEDA COUNTY.

One of the best equipped schools in this county, probably on the coast, is in the Lincoln district, in this county. The school-house is a little, old-fashioned country building, large enough to comfortably seat fifty or sixty pupils, a larger number than are ever enrolled. There are plenty of shade and ornamental trees, a stout fence and a good well in the commodious grounds. But the superiority of this school consists in its magnifi-

cent cabinets of specimens illustrating the natural sciences. Minerals, shells, fossils, etc., valued at nearly \$1000, an excellent supply of charts, maps, globes, and some philosophical apparatus, constitute a more complete outfit for the ideal school than is possessed by a majority of the city grammar schools. The gentleman, whose active interest, cultured taste, and indefatigable perseverance have secured this apparatus, is Mr. Edward Munyan, the Clerk of the Board of Trustees. Wouldn't others of the school districts of the State like to get him? Considerable credit also is due, for contributions, much time spent in classifying, etc., to Dr. Lorenzo G. Yates, of Centreville.

The Alameda City High School, A. F. Craven, Principal, numbers 167 pupils on the roll.

The teachers of Oakland and Alameda were granted leave to close their schools and attend the State Teachers' Institute, at its last session.

The Oakland Board of Education followed the good example set by the Board of San Francisco, and subscribed for the JOURNAL for each school in the Department.

TEHAMA COUNTY.

The *People's Cause*, of Red Bluff, says, that that community may well be proud of its public school. A new building has lately been erected, well furnished with patent desks, and the school, under the able management of the Principal, Prof. McCoy, is making excellent progress.

Diphtheria, which has been raging virulently among California children for a few months, has not spared this country. There have been a much greater number of absences reported than usual, especially since the first rains of the winter.

LAKE COUNTY.

The Lakeport school is flourishing under the efficient management of Prof. N. Smith, assisted by Misses Pendergrast and Burbank.

Prof. J. P. Royall has removed to Lakeport, and is now conducting an evening school at the Mound Cottages.

Lakeport is greatly in need of a new school building. The present building is entirely inadequate, and does not accomodate all the children who wish to attend school.

Mr. J. F. Scott, has opened a private school at Lower Lake.

Miss S. E. Stinson has taken charge of the Spruce Grove school.

Prof. Ferguson has opened a High School at Upper Lake. We wish him success.

The school in the Lake Shore district opened November 5th. Miss Anis Fees, teacher.

Prof. C. A. Cooper, late of this place, is at Lone Pine, Inyo County. Mrs. A. Lowe is teaching at Independence, Cal.

We are indebted for our Lake County items to the Lakeport *Bee*, one of the most interesting and best edited of the local papers of California. County Supt. Wallace is one of the proprietors and editors, and he finds room weekly for an educational department, which is highly creditable to him and an aid to the educational advancement of his section.

SONOMA COUNTY.

There are 664 pupils enrolled in the Santa Rosa public schools.

The Gilford school, Mr. Carver, teacher, closed the summer term a week ago. Mr. Carver has been re-engaged for the succeeding term.

A normal class, conducted by Profs. Hutton and Munday, is in successful operation at Petaluma.

The new building for the Healdsburg Institute has been completed, and is an ornament to that city. A lease of the building was tendered to Prof. Gilbert Butler, who has conducted a successful academy heretofore in Healdsburg. The tender has been accepted by him, and he expects to begin the next term with more than one hundred and twenty-five pupils.

Mrs. Edward Martin, formerly Principal of the Healdsburg school, has been giving general satisfaction as teacher of the Hamilton school.

CONTRA COSTA COUNTY.

The Clayton School, A. L. Pratt, Principal, Miss N. V. Hitchcock, assistant, is making excellent progress. This is a model school in regard to absence and tardiness. The latter has been reduced to a minimum.

SANTA CRUZ COUNTY.

W. F. Kent is principal of the High and Grammar schools at Soquel.

The Corralitos school is progressing favorably under C. M. White, Principal, and Miss Carrie Pratt assistant. Mr. White is Justice of the Peace at Corralitos as well as teacher of the school.

KERN COUNTY.

The Trustees of Bakersfield have awarded the contract for the erection of a \$10,000 school-house in that little city.

LOS ANGELES COUNTY.

Miss Regina Mast, a normal teacher of experience and merit from the East, has opened a Normal Institute in Los Angeles City.

Among the nominees for the Los Angeles Board of Education, to be voted for in December, is Mrs. Caroline M. Severance, formerly of Auburn, N. Y., and Cleveland, Ohio.

The Los Angeles city schools are making exceedingly good progress under the efficient supervision of Prof. C. H. Kimball, the City Superintendent, who is also Principal of the High School. There are twenty-four classes in the department, with a total enrollment of 1,234 pupils. Great credit is due Prof. Kimball for the active interest he has fostered in the schools on the part of both teachers and parents.

MENDOCINO COUNTY.

The Ukiah City public schools are a special credit to the place, and average an attendance of over ninety per cent. The building is of brick, costing some \$10,000, and stands on the verge of a grove, with a capital play-ground surrounding it. Though substantial, it has few architectural pretensions, but this fact is atoned for by the magnificent view it commands of the very fine landscape. Professor M. L. Weeks is Principal, J. S. Hunter Vice-Principal, and Mrs. S. W. Haskett and Miss Fannie L. Davidson assistants. The school property is valued at \$10,370, and the expenses are \$3,655. The number of census children, all ages, is 514; between five and seventeen years of age, 371; enrolled, 335. The Literary Union assists materially in promoting the pursuit of knowledge, while affording opportunities for charming social reunions. The *Democratic Dispatch* here, is edited by Mrs. Belle Lynch.

MONTEREY COUNTY.

The public schools of Salinas will close a week from next Friday, when teachers and pupils will have a couple of months' rest. We understand that Miss Betancue does not intend teaching here any more, she having accepted a position tendered her in Oakland.

W. T. R. Helm, the Principal of the San Juan school, committed suicide at the school-house, on November 17th, by shooting himself through the

heart. Mr. Helm was an excellent teacher and an estimable gentleman, and his sad fate is much regretted by all who knew him. On the black-board of his class-room was written—"To my friends : Farewell. Remember my virtues, forget my vices. To many : The problem is solved." It is supposed that unrequited affection was the cause of the deed.

An interesting and profitable session of the Monterey County Teachers' Association was held in Castroville, November 24th. President McClenahan in the chair. This is an association of the teachers of Monterey who hold monthly meetings at different points in the county. The Association comprises some of the ablest teachers of the State: such men as Philip Prior of the Salinas High School, formerly of the Union Grammar School of San Francisco; R. A. Paden of Salinas City, and Supt. McCroskey, who has done much to advance the educational growth of this section of the State.

The Salinas *Index*, in this county, one of the brightest and most newsy local papers in the State, deserves a word of extra commendation for the special attention it pays to education in its vicinity. The influence upon teachers, parents, and children cannot but be excellent, and it would be well if the local press generally follow ed this excellent example.

Examination Questions.

Questions used in the Boston Public Schools for examinations for Grammar-school diplomas, January, 1877.

PHYSIOLOGY.

1. What is anatomy? What is physiology? What is hygiene?
2. Name and describe briefly the organs of digestion.
3. Describe the process of digestion.
4. Describe briefly the structure of the heart. What are arteries and veins? What are the capillaries? Why is an injury to an artery more serious than to a vein? Why is it less likely to occur? Where can the pulse be felt?
5. Trace the circulation of the blood from the left auricle of the heart through the system back to the heart. Where does the blood pass next? For what purpose?
6. What are the organs of respiration? What changes does the blood undergo in the lungs?
7. Upon what does good digestion depend? What suggestions can you give upon the proper times for, and the manner of eating? Give some suggestions for the preservation of the teeth.
8. Why is cleanliness of the skin important? What rules can you give for healthful bathing?
9. Give hygienic rules for bodily labor and exercise. For posture and dress. For good respiration. For good brain-power. What effects will follow the violation of these rules?
10. Mention any practical applications, not already alluded to, which you can make of your study of physiology.

SPELLING.

[The 25 italicized words to be written. Each sentence is read to the candidates, and then the italicized word repeated, thus: "Necessity compelled him to labor.—Necessity."]

1. *Necessity* compelled 'him' to labor. 2. He is an earnest, zealous man. 3. The tiger is well known for his *fierceness*. 4. *Avarice* is a detestable vice. 5. He grieved at the *separation* from his family. 6. I have been studying *physiology*. 7. Show *reverence* to the aged. 8. He drew two *parallel* lines. 9. A *solitary* crow sat on a tree. 10. He granted the *privilege* at once. 11. Beware of *interfering* between them. 12. It was a *pitiable* sight. 13. He ran in *pursuit* of the boy. 14. This is a *miscellaneous* collection of words. 15. He is member of the *legislature*. 16. *Proceeding* means going forward. 17. *Receding* means going back. 18. An orator should understand the art of *persuasion*. 19. Contentment is a *desirable* virtue. 20. Seeing is *believing*. 21. Many honors were *conferred* upon him. 22. See this tough *sinew* in the turkey's leg. 23. He is *receiving* aid. 24. If my hat is blown off I may *lose* it. 25. One-third of one-third is one-ninth.

The following questions were used at the annual examination of the Sacramento Grammar-school, A. H. McDonald, Principal, for promotion to the High-school of that city. The questions will be found useful, not only for class use, but for teachers studying for certificates:

GRAMMAR.

1. What is a letter, a word, a phrase, a sentence? How are phrases classified by their offices? By their forms? Give an example of each. 2. How are words distinguished by their use? Give an example of each. Name five classes of nouns. Give an example of each. 3. Give examples of other words performing substantive offices. What nouns have no plural? Write the expression, "Mens and Boys Clothing," indicating the correct form of the possessives. 4. In how many ways are the distinctions of gender determined? Give an example of each. How are pronouns classified? Give the list of each class. Which of the relatives are declined? Decline *their*. 5. State the peculiar use of *who*, *which*, and *that*. For what various purposes are adjectives used? Give an example of each. 6. Why do we have distinctions of mode? When do we use the subjunctive, the potential, the infinitive? What various offices do participles perform? What is an auxiliary verb, a redundant, a defective? 7. Give the office of *can*, *may*, *shall*, *will*, *could*, *might*, and *should*. In the following extract, classify and parse the adverbial words, phrases and sentence:

"E'en now where Alpine solitudes ascend,
I sit me down a pensive hour to spend;
And placed on high, above the storm's career,
Look downward, where a hundred realms appear."

8. Give an example where a conjunction connects words. Phrases—Sentences. Write a sentence with a *phrase* subject; a sentence subject. 9. How do you form the tenses of the common form of a verb in the indicative mode? How do you form the tenses of the emphatic form of a verb in the indicative mode? How do you form the tenses of the progressive form of a verb in the potential mode? How do you form the tenses of the passive form of a verb

in the subjunctive mode? Give an example of each. 10. How is a verb conjugated negatively? How is a verb conjugated interrogatively? How is a verb conjugated interrogatively and negatively? Give an example of each.

The following questions from the *Canada School Journal*, which came to us a few weeks since for the first time, will undoubtedly prove of special interest to our teachers. The *Journal* is an excellent publication, every page of which demonstrated, to our satisfaction at least, that our California school system is not yet quite perfection; and that we can learn much from other States, and from none more than Canada :

BOTANY AND PHYSIOLOGY.

(For Second-class Teachers.)

1. Describe the different parts of a flower, and give the use of the stamens and pistils. What peculiarity in the structure of pendent flowers, as the Fuchsia? 2. Explain the mode of life of biennial plants. 3. Describe the process of absorption, transpiration, and assimilation, as carried on in plants. 4. Describe two of the following: the human stomach, the skin, the aorta, optic nerve. 5. Give the use of the epiglottis, mesenteric glands, pancreas, tendons, capillaries, synovia. 6. Write short notes on one of the following subjects: muscles, circulation, respiration.

BOTANY, AGRICULTURE, AND DOMESTIC ECONOMY.

(For First-class Teachers.)

1. Give an account of the various means by which cross-fertilization is secured. Describe the composition and properties of protoplasm, and tell what part it plays in vegetable organisms. 3. Explain the structure of the sting of the nettle, showing how the irritation caused by it is produced. 4. State wherein gymnospermous plants differ from other phanerogams. 5. State the theories held as to the origin of species. 6. Sketch a vertical section of a flower of the Mallow Family. 7. Explain the terms *rhizome*, *plumule*, *cotyledon*, *achene*, *corymb*, and *catkin*. 8. Explain how you would feed cattle in order—(i.) To fatten them. (ii.) To obtain the largest possible quantity of milk. (iii.) To obtain milk of the best possible quality. (iv.) To obtain the largest possible return in cheese. 9. State when it is advisable—(i.) Not to plough deep. (ii.) To use the subsoil plough. (iii.) To drain. 10. Explain the value of lime as manure, and state on what soils it is most advantageous. Give the chemical composition of quick lime, slacked lime, mild lime, limestone, and chalk. What is marl? 11. Under what circumstances is ammonia known to be produced naturally? Explain its importance in regard to the vegetable world.

Female candidates may, if they choose, substitute the following Questions for Questions 8, 9, 10 and 11:

12. How would you proceed in order to—(i.) Cook a beefsteak. (ii.) Poach eggs. (iii.) Make good toast. (iv.) Prepare a nice dinner in the month of July at a farmhouse, where the only meat procurable is fat salt pork. *N. B.*—Nothing expensive is to be used, and nothing that cannot usually, or at least easily, be had in a farmhouse. 13. Why should a house be ventilated and beds aired? 14. Point out the advantages and disadvantages of having many windows in a house.

PHYSIOLOGY AND ZOOLOGY.

(For First-class Teachers.)

1. (a) Explain the process of circulation. (b) What is the shortest course by which drop of blood can return to the right auricle after leaving the left ventricle? (c) Why is it so dangerous to drink freely of cold water when the body is overheated? (d) A pupil is bleeding profusely; how would you decide whether he had severed an artery or a vein? If an artery, what course would you adopt?
2. Describe the structure of the eye, and mention the uses of its most important parts.
3. (a) Name the four classes of substances of which the food is composed. (b) Which are *essential*? (c) Why would a person fed only on fats, starch, sugar, dextrine, and gums, gradually die of starvation?
4. When is it particularly injurious to study hard? Give reasons for your answers.
5. (a) Describe the circulation of reptiles. (b) How do reptiles reproduce themselves?
6. (a) Give the general characters of the mammalia. (b) Which mammals have no hair when grown up, and no external ears?
7. (a) Explain the nature and objects of the peculiarities in the skeletons of birds. (b) What means are adopted to reduce the specific gravity of their bodies?
8. Give the sub-kingdom, class and order of the following: Gorilla, rabbit, bear, buffalo, owl, pigeon, stork, parrot, alligator, turtle, salmon, clam, lobster, beetle, butterfly.

BOOK NOTICES.

THE NATURALIST'S GUIDE in collecting and preserving Objects of Natural History, with a complete catalogue of the birds of Eastern Massachusetts, by C. J. Maynard, with illustrations by E. L. Weeks. Revised edition. S. E. Cassino, Naturalists' Agency, Salem, Mass., 1877.

This is a handsome little book of 160 pages, in two parts of about eighty pages each. Part First gives directions for collecting and preserving all kinds of animals—with instructions for mounting. Also, a chapter on collecting and preserving eggs.

Part Second gives a catalogue of the birds of eastern Massachusetts, numbering about 300, with notes upon their habits, migration and specific character, the last especially valuable. While notes on their habits must interest every naturalist, this is a valuable work for the young naturalist, for with this in his hand he may gain information that will make him, by practice and experience, a good taxidermist. The work is illustrated with ten plates, and the methods have been so tested by Mr. Maynard in his long experience, that they may be relied upon. He is not a book naturalist, but for years he has studied the secret habits of animals in their native haunts—in mountain, plain, meadow and woods, bogs and briers, sunshine and wet, summer and winter. From such loving companionship he has come to know every action and cry of joy or pain in all

his animal friends. Such an experience must stimulate every reader of this volume, and we cordially recommend it to any whose mind goes out in this direction at all.

THE SUN WORSHIPERS OF ASIA, by Charles D. Poston. Reprinted for the author from the London Edition. San Francisco: A. Roman & Co., Publishers, 1877.

This is a little "vest pocket" duodecimo, very neatly printed, and bound in green cloth, with its title in gilt on the cover. It consists of a lecture, in a rather fragmentary style, upon an exceedingly interesting subject. It attempts to give an idea of the Fire Worshipers of Ancient Persia and India, with a description of the Ruins of Persepolis, copied from the "Ruins of Lost Empires," by Myers. The Bible of these people was the Zend-Avesta, said to have been compiled by Zoroaster 6000 years before Christ. Its central idea is PURITY OF THOUGHT, WORD, and ACTION, and many of its sentiments are as exalted as those of the Hebrew Bible. If the chronology given is at all correct, the supposed advanced Christian of this very progressive nineteenth century may stare with astonishment as he reads the views of God and duty, purity and the future life prevalent 8000 years ago. These fragments of history ought to stimulate a search into the large works of Rawlinson and others.

3000 WORDS. Pronouncing Hand-book of words often mispronounced, and of words to which a choice of pronunciation is allowed, by Richard Soule and Loomis J. Campbell. Boston: Lee & Shepard, publishers. San Francisco: C. Beach.

This little volume has been in use several years in the East, and has been widely noticed and commended by such men as Prof. Whitney, W. A. Wheeler, editor of Webster's Dictionary, the Agents of the Massachusetts Board of Education, and others, and by the Press generally; and we think justly so. Not only every teacher, but every person who pretends or desires to speak properly and correctly should own this book and use it daily until, by practice, the habits it teaches has become a second nature. We do not suppose a teacher in this State can study this book without benefit, unless he has already done as we suggest. A Boston paper says: "It can be carried in a gentleman's vest pocket or tucked into (*under?*) a ladies belt, and we wish several hundred thousand copies might be so disposed of with a view to daily consultation." "We concur," and commend it to all teachers.

THAT GIRL OF MINE; a love story, by the author of "That Lover of Mine." Philadelphia: T. B. Peterson & Bros. San Francisco: I. N. Choyinski.

This is a society story—a story of fashionable

life in Washington in all its phases, by one who "has been there," and speaks from experience. It is full of "scenes" and startling surprises. There is a great variety of characters—all society people, it is true, but variable as life;—the artless, sincere, severely truthful girl; the flirt, the coquette, the marble-heart, the villain, the honest, and noble and heroic. These are skilfully drawn, and some of them are said to be from life, and well-known to the winter residents of Washington. Then there's a Captain, and a Major, and a General, and a Count, and a Baron, etc., etc., and the "German," and the "Dance of Death," and, in short, there's Washington "in the season," and any one who desires to make a rapid and cheap trip there and enjoy himself "on the wing," let him read this book.

EREMA, OR MY FATHER'S SIN. A novel, by R. D. Blackmore, author of "Lorna Doone," "The Maid of Sker," "Cripps the Carrier," etc., etc. New York: Harper Bros. San Francisco: C. Beach.

Mr. Blackmore has a high reputation as a writer of fiction, and very justly so. All his books come from his hands with the finish of fine art upon them. Their moral tone is elevated: they no more offend the taste of the most sensitive than does a Greek statue. The scenes on the first fifty pages are laid in California, then shift to England, then back to America. The descriptions of natural scenery, of character, his dramatic power, make this and all his books exceedingly interesting and instructive, and the scenes in this volume in our own State render this an exceptionally attractive work for our people.

To be had of C. Beach.

We have received the following books, too late for review in this issue: Allen and Greenough's Latin Grammar, Revised Edition, from Ginn & Heath, Boston; from the author, Prof. George V. Le Vaux, "The Science and Art of Teaching"; from the author, S. S. Saul, San Leandro, "The English Language, Suggestions for its Correct Use without Technical Grammar." The last named work is eminently sensible. It is a practical exposition of ideas we have often hinted at in these pages. A new edition of the work is promised, which we shall fully review.

DECEMBER MONTHLIES.

The first of the monthlies for December on our table is *Harper's Magazine*. We can say nothing better than the stereotyped phrase—"as good as ever," and that means unsurpassed. Two things, however, deserve especial mention; one the beautiful illustrations of the opening poem, Milton's Hymn to the Nativity, the other, a new poem by Longfellow, *Keramos*. To the poet's flow of fancy and wealth of diction, is added a copiousness of lovely illustrations that makes the whole a gem of poesy and artistic taste. Other pleasant and readable articles in this number are "Many Leaves and Few Grapes," a Christmas story; "Master Robby's Romance," "My Uncle's Heiress," "The Daily Advertiser." Mrs. John C. Fremont continues her interesting "A Year of American Travel"; a serial, "Da Capo," which bids fair to be exceedingly interesting, is begun by Miss Thackery. A poem, "Monmouth," by James T. Fields, and one, "To a Friend who slept ill," by Edgar Fawcett, will be enjoyed by the reader. An article by W. H. Rideing, on "The Metropolitan Newspaper," is also very entertaining. The editorial summaries are varied and entertaining.

While on the subject of the Harpers' publications, a word of warm commendation of the *Weekly* and *Bazar* is both appropriate and due. We can dismiss the *Bazar* with the sentence that—it is a good home paper; a safe magazine for the fireside; one that elevates the taste of those who make or break nations.

The *Weekly* is truly a journal of civilization. We can say without hyperbole or exaggeration that its influence in the cause of good government, of education, of general enlightenment and culture, has not been surpassed, if equalled, by any periodical in America. These warm words of grateful acknowledgement are due from every one whose pride is to be an American citizen.

We are pleased to see that the inimitable pencil of Nast is again employed in the service of the *Weekly*.

We are proud of having on our exchange list such magnificent publications as *The Christian Union* and *The Independent*. The *Christian Union* comes to us weekly literally crowded with the ablest productions of the ablest minds of America. Not theology merely is represented in its columns; Politics, Political Economy, Science and Art are all represented by master minds of our age and land. Fiction also, of that class which charms without galling the taste, and interests without enervating the mind is represented by Harriet Beecher Stowe and others.

In the *Independent*, we find the ablest scientific theologian of our age—the Rev. Joseph Cook, of Boston—waging war with materialistic science on its own ground. Articles from such thinkers as President Noah Porter, the Hon. John Jay, the Rev. R. W. Dale tend to culture the reader in the highest sense of the term. For lighter reading, standard contributions of poetry and fiction,

on art and science, and general literature make up weekly a pamphlet of no small size.

We heartily commend this publication to the teachers of the Pacific Coast. It is of a character to improve the mind, cultivate the taste, and strengthen the general understanding.

The *Popular Science Monthly* for December contains even more than the usual number of readable articles. The *Popular Science* is essentially the educational magazine of the world. Every educator who aims to raise himself above the drudgery of teaching to the higher, nobler work of training and culturing the youthful mind, can in no way better prepare himself than by studying this journal. We confess that this is one of three or four of our American magazines about which we allow ourselves to grow enthusiastic.

The contents for the current number are: The second of Prof. R. H. Thurston's valuable papers on the growth of the steam-engine; "Star or Star-Mist," by Mr. R. A. Proctor. In "Language and the English Civil Service," Prof. Alexander Bain, of the University of Aberdeen, attacks the study of language from a new standpoint, showing that it is really of very little value as a means of intellectual training. The fourth article is on "The Comparative Stupidity of Politicians." The "Laryngoscope and Rhinoscope" is an illustrated article by Dr. F. Seeger. Dr. Draper's able address on the "Origin, Progress, and Consequences of Evolution," is published in this number in full, and is a remarkably candid and vigorous presentation of a subject that is now attracting universal attention. "Our Six-footed Rivals" is an exceedingly interesting account of the perfection of social organization that has been arrived at by the ants. "Open Air and Health," by Dr. Paul Niemeyer, and four other articles, with a sketch of Prof. W. J. M. Rankine, accompanied by a portrait, complete the body of this number. In the Editor's Table there is a good article on "Savings-Banks and State Control." This is followed by the usual variety of reviews and literary notices.

The *Galaxy* closed its twenty-third volume with this number with a creditable table of contents. As a purely literary magazine, without illustrations, it is unsurpassed. In this number the leading articles are: "The Truth About the Strike," by Robert P. Porter; "Administration of Abraham Lincoln," by Gideon Welles; "The Three-story Story of a Box," by Jane G. Austin; "Before the Mirror," by Paul H. Hayne; "The Youth of Charles Sumner," by Lucy C. White; "Grotesque," Suggested by a visit to the Castellani Collection, by Emma Lazarus; "Max and Myself," by Alice Ainslee; "The Suburbs of London," by Henry James, Jr.; "A Dream of Anglo-Saxondom," by J. E. Chamberlain; "The Golden Age," by William Preston Johnson; "Ivory and Its Imitations," by E. T. Lander; "The Florentine Arithmetician," by Richard Grant White; "The Nez Perce War," by F. L. M.; "A Brown Study," by L. W. Backus, and the usual very valuable departments.

Scribner is last on our list, but by no means least. This is decidedly a high art magazine. No especial holiday fare is provided for its readers, but the usual rich variety offers an intellectual treat. "The Wooden Age," an illustrated article, by Charles D. Robinson, descriptive of the lumber trade of the United States, opens the number. Following closely upon this is Col. Waring's enthusiastic talk about "The Thoroughbred horse." The travel paper takes the reader "From the Atlantic to the Andes, via the Amazon and Madeira rivers. With her paper on "Ants," of which many curious facts are told, Mrs. Herrick closes her series of microscope studies. Another scientific paper, "Mars and His Moons," is by Lieut. E. W. Sturdy, of the U. S. Navy Observatory.

St. Nicholas for December gives us a Christmas greeting from a new cover as lovely as Walter Crane, the designer of "The Baby's Opera," alone can make it. The whole number, to quote a most honest and sapient judge of sweet sixteen, is "just lovely." 100,000 copies have been issued, and it contains ninety-six pages and fifty seven illustrations, including a frontispiece, "The Holy Family," after Sienbach—truly a holiday portion. Henry W. Longfellow contributes a Christmas poem, "The Three Kings," that will bring him yet nearer to the youngsters' hearts. William Cullen Bryant also has a fine poem in this number, entitled "The Mocking-Bird and the Donkey." Louisa M. Alcott's new story, "Under the Lilacs," a serial for girls, opens with an installment of three long, delightful chapters, and with four fine illustrations by Mary Hallock Foote. The author of "Alice in Wonderland," (Lewis Carroll) furnishes a fairy story, "Bruno's Revenge," full of sweet, bright fancies, and with a pretty illustration. Dr. J. G. Holland contributes a poetic double riddle that will be a poser to most puzzlers. Mr. Frank R. Stockton contributes a fresh and humorous fairy tale, "Sweet Marjoram Day," and Gail Hamilton discourses briefly, pleasantly and instructively upon the difference between the behavior of young folks in the "good old times" and nowadays. The humorous character of the magazine is well upheld by Lucretia P. Hale's laughter-provoking account of "The Peterkins' Charrades"; "A Chapter of Butts," consisting of five comical illustrations; and "The Magician and His Bee."

The Practical Teacher, the first number of which has been received from S.R. Winchell, the publisher, Chicago, is a valuable addition to American educational literature. It is eminently what its name implies, a practical journal for teachers. It is the sort of thing teachers want and need.

Mr. Purdy has already an attendance of fifty pupils at the public school in this town, although not running two weeks yet. Mr. P. is a good teacher, and a strict disciplinarian. He will put the rising generation of the town on the right track.—*Idaho Avalanche, Silver City.*

WHAT THE PRESS SAY OF US.

The Sacramento *Record Union* says :

THE PACIFIC SCHOOL AND HOME JOURNAL, (A. Lyser & Co., San Francisco), is a journal creditable to the coast.

The Salinas *Index*, one of the best local papers on the coast, says :

THE PACIFIC SCHOOL AND HOME JOURNAL, edited by Mr. Albert Lyser, of San Francisco, is one of the best journals on education issued in the United States.

From a representative religious organ, the *Pacific Churchman*, we extract the following :

It affords us sincere pleasure to peruse this neatly printed publication, THE PACIFIC SCHOOL AND HOME JOURNAL, containing in every number some of the best thoughts of our ablest educators—men who love their work and ennoble their profession. The original papers of the current issue are, “What should be expected of our Public Schools,” etc., etc. The Editors Department embraces twenty-four pages of choice extracts and vigorous criticisms, showing intelligent reading of a wide range, and mental activity of a high order. We cordially commend THE SCHOOL AND HOME JOURNAL to every person who desires information upon its specialties.

Superintendent L. Wallace, in his paper, the Lakeport *Bee*, in which we always find an interesting and valuable educational department, gives us, as often before, a cordial endorsement. He says :

The November number of THE SCHOOL AND HOME JOURNAL is, as usual, very good. We advise all teachers to subscribe for it.

That sterling educational journal, the *Ohio Educational Monthly*, says :

THE PACIFIC SCHOOL AND HOME JOURNAL is becoming a power on the Pacific Slope. It is much larger and better printed than the late “California Teacher.”

The *Chicago Weekly*, one of the foremost educational journals of America, says in an October number :

THE PACIFIC SCHOOL AND HOME JOURNAL, a monthly published in San Francisco, increases in interest and value with each successive number. It has evidently entered on a grand and successful career.

A NEW periodical for ladies, devotes eighteen pages to fashions and one to cooking. There is an “eternal fitness” in this, since fashion costs eighteen times as much as cooking, has more than eighteen times as many devotees, and has twice eighteen times as much study devoted to it.

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BOYS' AND GIRLS' DEPARTMENT.

Edited by Mrs. L. A. K. Clappe.

The Revenge of the Little Hippopotamus.

A fat young hippopotamus
Sat grimly by the Nile,
Contriving dire vengeance
On a lady crocodile,
Who, that morning, for her breakfast
Ate up his brothers twain ;
So he pondered long and deeply
How to pay her back again.

All at once an idea struck him,
And he broke into a smile.
“ I have it ! ” cried he, joyfully ;
“ I’ll fix that crocodile ! ”
Then he trotted through the rushes
Until he reached dry land,
When he crept along quite silently
To a mound in the hot sand,

Where the crocodile had buried
Her eggs, because she knew
The torrid sun would hatch them
Within a month or two.
Now, the savage mother-reptile
Was nowhere to be seen,
For she was calmly slumbering
Among the rushes green.

The little hippopotamus
Moved cautiously and slow,
Until he saw the heap of eggs—
Then laughed he long and low.
Then boldly he marched forward,
And stamped upon the nest,
And jumped and kicked and pranced about,
As if he were possessed,

Till all the eggs were scattered
And broken every one,
While all the little crocodiles
Forth from the shells did run.
The ancient mother-crocodile,
Hearing her young ones wail,
Came rushing from her muddy couch,
Waving her frightful tail.

The little hippopotamus
Was having them huge fun,
Stepping upon the babies,
To smash them one by one ;
So he failed to see the mother,
Nor dreamed of his mishap,
Till—whack ! against his side so fat
There came an awful slap.

It lifted him from off his feet,
And hurled him up on high,
And away he went careering
Like a rocket in the sky.
How far he flew I know not,
But ‘t is said that he was thrown
On the pyramid of Cheops,
Straddling the topmost stone.

Being too fat to clamber down,
He may be there this day,
Unless some one in a balloon
Has carried him away.
But of this you may be certain,
That if he is not found
In the air or in the water,
He’s somewhere on the ground.

—Park Benjamin, St. Nicholas for October.

THE BROWN FAMILY.

BY H. ELLIOTT M’BRIDE.

CHARACTERS: MR. BROWN, MRS. BROWN,
ANNIE BROWN, JOHN BROWN, ETTA BROWN
(very small girl.)

SCENE: A room. MR. BROWN, reading newspaper; MRS. BROWN knitting; ANNIE, JOHN, and ETTA engaged with their toys, pictures, etc.

Mr. Brown. (Reading)—“ John Barker, a young man who recently resided in this town, has been arrested for horse-stealing. He had a hearing before Alderman Cowan

yesterday, and was committed for trial." So sad, indeed, when such a promising young man as John Barker takes to horse-stealing. Mary, you remember him, I suppose? He was in my employ for a time, and I considered him a very fine young man.

Mrs. Brown.—Ah! he was not brought up properly. This, I feel sure, is the cause of the trouble. Any boy or girl who has good parents, and trained in the right way, will never take to horse-stealing, nor anything that is bad.

Mr. Brown.—John Barker has a good, honest father and a kind mother, and I always supposed that he received a correct education.

Mrs. Brown.—There was something wrong. Take my word for it, his education has been neglected in some way, or he never would have turned out so. Now I intend to bring up my children properly. I do not think it right to be too severe. Indeed, I think it a very difficult matter to do that which is right and proper on all occasions, but I flatter myself that I am capable.

John. (to the other children.)—Mother has a very good opinion of herself, hasn't she?

Annie.—And her son John is very much like her.

Etta. (Crying.)—Oh, I'm so sleepy; muzzer, I wish 'oo 'ood put me to bed.

Mrs. Brown.—Hush up now, and sit still.

Mr. Brown. (Reading.)—“Franklin has said many things that have passed into maxims, but nothing that is better known and remembered than ‘He has paid dear for his whistle.’”

John. (To Annie.)—I wish papa wouldn't read aloud. He reads through his nose, and makes a humming sound. If I couldn't do better, I'd keep silent.

Annie.—Well, I'm sure you're no reader. You are always at the foot of the reading-class in school, and can't pronounce half the words.

John. (In a loud voice.)—Annie Brown, I tell you that's not so.

Annie.—I say it is so.

Mr. Brown.—Hallo! what's the matter there now?

John.—Annie's saying things about me that are not true.

Annie.—Yes, and John says you read through your nose.

Mr. Brown.—I'll whip both of you, if you don't keep quiet.

Mrs. Brown.—No, you'll not. You shan't whip the children for such little things. You are not satisfied unless you are whipping them all the time.

Mr. Brown.—Mary, you should not speak to me so.

Mrs. Brown.—But I will speak to you so when I know you are wrong.

Mr. Brown.—Very well; train the children as you think proper, and if they turn out John Barkers, you can't blame me.

Mrs. Brown.—If you were to have control of them, I feel very sure that they would all be even worse than John Barker in the end. (*Mr. Brown resumes his reading.*)

Etta.—I wish muzzer 'oodn't fight and holler so at papa. It 'most mates me sick to hear her.

John.—Annie, lay down that block; you shan't have it now.

Annie.—The block belongs to me, don't it, mother?

Mrs. Brown.—No! let the blocks alone, and be quiet.

Etta.—Muzzer, I am yeal tired, and I tink if 'oo don't put me to bed I'll have a sick spell.

Mrs. Brown.—Hush, I tell you! Sit still, and don't bother me. If you go to sleep there, I'll whip you.

Mr. Brown.—I thought you didn't approve of whipping.

Mrs. Brown.—William, I'd thank you if you'd attend to your paper, and let me attend to the children.

Annie.—Mother, Lizzie Blake wants John and me to go over to their house to-morrow; may we go?

Mrs. Brown.—No, you shall not; so you needn't talk any more about it.

John.—But I want to go awful bad. I want to play a game of croquet with Tom Blake. And Sam Barnes and Fred Lake will be there, and we'll have a good time, if you will let us go.

Mrs. Brown.—No; I'll not let you go. I think I can find enough for you to do at home, and I don't want you to associate with the Blakes.

John.—Why, I think Tom Blake is a real nice boy.

Annie.—And I think Lizzie is a splendid girl.

Mrs. Brown.—Well, you may both keep quiet on that subject, for I'll not let you go.

John. (Aside.)—She's a hateful old thing. I wish I had a nice mother.

Etta.—I'm ditting sleepier an' sleepier. I do wish muzzer ood put me to bed.

Mrs. Brown.—I tell you, you can't go. When I say anything, you must obey me. Do you understand? Annie, take Etta and put her to bed; I suppose she is sleepy.

Annie.—Oh, mother! I don't want her to go. Let her sit up awhile.

Etta.—No, I don't want her to sit up awhile. I's so tired an' so sleepy, I want to go now.

Annie.—Mother, let me go to Blake's tomorrow, won't you? Do! Lizzie Blake says her mother thinks you are a real good woman, and she'll think it queer if you don't let us go.

John.—And let me go, too. I want to beat Tom playing croquet.

Mrs. Brown.—I don't know as I ought to let you go; you go to too many places; you are never satisfied unless you are in some kind of mischief.

John.—I'll think you are such a good woman, if you'll let us go.

Mrs. Brown.—Well, you may go. I

suppose it isn't right to keep you so close at home. Children ought to have liberty to visit some. Now, John, when you go I want you to say something funny. You are a smart boy and you ought to let the people know it. You said some funny things yesterday; you might say them again when you are at Blake's, and let Tom and Lizzie see that you are a great deal smarter than they are.

John.—Oh, yes; I'll say lots of funny things, and I'll make the boys laugh. John Walker says I'm the funniest boy in school.

Mrs. Brown.—Now, you had better go to bed, and take Etta with you.

Annie.—Come, Etta, are you ready?

Etta.—I was ready long ado. (*Exit John, Annie, and Etta.*)

Mr. Brown.—When the children want to do something—go to Blake's for instance—and you are opposed to it, always let them coax you until you give your consent. This is an excellent way to train children, isn't it?

Mrs. Brown.—I can attend to my business, and I'd thank you to attend to yours.

(*Exit Mrs. Brown.*)

—New England Journal of Education.

Con Spirito.

With wond'ring awe, The wise men saw The star in Heaven

springing, And with de-light In peaceful night, They heard the an-gels

sing - ing, Ho - san - na, Ho - san - na, Ho - san - na to His name.

THE PACIFIC SCHOOL AND HOME JOURNAL.

VOL. I.

SAN FRANCISCO, JANUARY, 1878.

No. 11.

SIMPLE EXPERIMENTS IN PHYSICS.

BY VOLNEY RATTAN.

I.

THE LEVER—LESSON I.

The wooden bar which I hold in my hand is three feet long. It is divided by black marks, two inches apart, into eighteen parts. Loops of wire are put through holes at several of these marks. By the loop at the center* I hook the bar upon the cord which you see hanging from the ceiling. The bar is level. I pull down one end and let go. After moving up and down a few times, it resumes a horizontal position. This bit of chalk put upon one end sends it down; slides off; and back the rod goes to its old place again. On the table, you see several bricks like this

one in my hand. I have put a wire around each one in such a way as to form a ring at one end of the brick, and a hook at the other end. These bricks were not of the same weight, so I reduced them all to the size of the smallest one by chipping off pieces with a hatchet. As I hold this brick, I feel that it is pulled down by some force, and to keep it where it is I must pull up just as much as it is pulled down. We call this force gravity, and we tell how much it pulls upon anything by giving the weight of that thing. When I say these bricks are of equal weight, it is the same as saying gravity pulls down upon one just as much as upon another. I cannot see gravity pulling upon the bricks, so I shall say the bricks themselves pull down. Now I shall set these bricks to pulling for us upon this bar. I hang a brick upon the right hand end of the bar, (*b*, Fig. 1) and, as we expected, it goes down. I hang another on the left, (*a*). The bar soon becomes level. I think you can predict the

* This loop must be placed through a hole nearer the upper side of the bar than the other holes; or, better still, put in the center of the top of the bar one of those "ring-screws" so commonly used on picture frames.

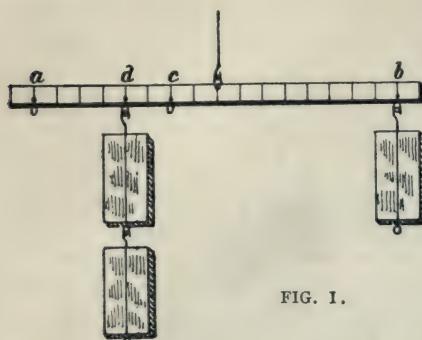


FIG. 1.

result if I hang one more brick upon each end. I do so, and the bar remains level. Why? Mary thinks it is because gravity pulls down just as much on one side as on the other. It is evident that the bricks and half the rod on one side weigh just as much as the bricks and half the rod on the other. Mary seems to be right; but we must not be too sure. Let us set the bricks at work in a different way. Remove all but one on the right. It is just sixteen inches from the center of the bar. I hang a brick just eight inches from the center on the other side, (*d*, Fig. 1). The right hand end of the rod is still hanging down; yet there is just as much weight on one side as on the other. I hook another brick below the one on the left, and it brings the rod into a horizontal position once more. Two bricks eight inches from the support are balanced by one brick sixteen inches from the support on the other side. I now move the two bricks to a point (*c*, Fig. 2) four inches from the support. The brick on the right is too strong for them, and up they go. I hang on another brick, yet the brick on the right overbalances them. A fourth brick brings the rod to a level again. We see four bricks four inches from the center on one side balanced by one brick sixteen inches from the center on the other side. On the left there are three more bricks pulling down than on the right. Mary was not quite right. Let us review the results of our experiments.

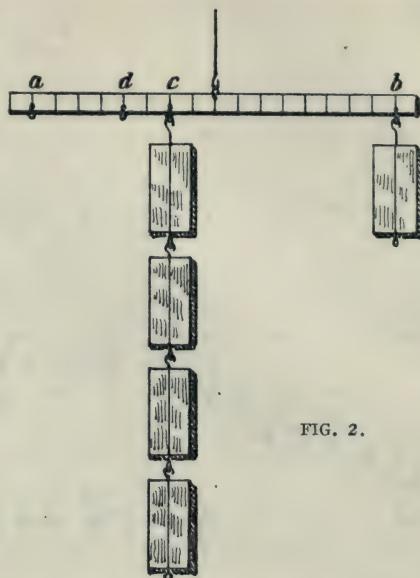


FIG. 2.

Equal weights at equal distances from the support on opposite sides balanced each other. A weight of two bricks eight inches from the support was balanced by one brick sixteen inches, or twice as far from the support on the other side. A weight of four bricks four inches from the support was balanced by one brick four times as far from the support on the other side. Now I think some of you are ready to tell how many bricks two inches from the center would be balanced by the brick on the right, sixteen inches from the center, or eight times as far away. You can predict how many bricks must be hung one inch to the left of the center to balance the one sixteen times as far away on the left. Possibly, with the aid of a slate and pencil, you can determine how many shall be hung a quarter of an inch from the center. How many, suspended from the center, would keep the brick at the end from falling? We will leave these questions for thought-food while we try one more experiment.

With the bar as a guide, I draw a line on the board thirty-six inches long; and divide it into eighteen parts, (see Fig. 3).

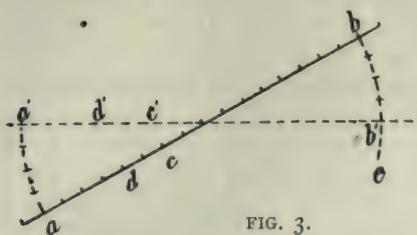


FIG. 3.

Let this line represent the bar, and the letters *a*, *b*, *c*, *d* represent the points where bricks were hung. With a crayon, at *a*, I draw an arc by moving the bar upon its center. In a similar manner I draw an arc from *b* downward. Upon one of these arcs I lay off four two inch spaces, and draw the line *a'* *b'*. Observe that the two bricks at *d* must, if the bar is moved upon its center, pass over two inches while the one brick at *b* travels four inches; also, that the four bricks at *c* must move but one inch while the brick at *b* moves four inches. There is a law to be dug out of these facts before we have another lesson.

CONCORD AND ITS SURROUNDINGS.

BY GEO. W. MINNS.

I have resided now some three years in this quiet and pleasant village of Concord, which is as well known to the world through its group of writers as for its battle reminiscences. Emerson, Hawthorne, Thoreau, Channing, Alcott—father and daughter—have made Concord famous. I have thought it might be interesting to your readers for me to say a few words concerning the homes of these Concord celebrities, as their names start up whenever the old town is mentioned.

At the intersection of the Lexington with the old Boston road, along which the British troops came in 1775, is Ralph Waldo Emerson's dwelling-house, nearly sixty years old, in which he has lived since

1835. He had previously resided in the "Old Manse," which was the parsonage of his grandfather, the Rev. William Emerson. From his study window in this mansion, the latter, on the 19th of April, 1775, looked out upon the battle-ground, where

"The embattled farmers stood,
And fired the shot heard round the world."

In one of the rooms of the "Manse," upon the wall, one of Emerson's brothers wrote the following remarkable lines, addressed to a brother who had just been ordained as a minister of the gospel :

"Holy and happy stand
In consecrated gown ;
Toil till some angel hand
Brings sleep, and shroud, and crown."

Emerson's present residence is a plain, square building, old-fashioned and comfortable. By some accident the upper part was injured by fire, but was restored during his absence in Europe. Within the house, old pictures look down from the walls ; quaint blue-and-white china holds the simple dinner ; old furniture brings to mind past generations. On the right, as you enter, is the library, a large, square room, the homely shelves of which are well filled with books. The study is quaint room up stairs, to which, when Mr. Emerson retires for work, he takes his hat with him from the entry, and then the servant understands that her master is engaged. When the hat is upon the entry table, he is at home to all. Instead of being a recluse, as some may have supposed, he is very accessible and affable. All his fellow-townsmen and women know and honor him. When he returned from Europe, the whole town, men, women and children, turned out, and escorted him from the depot to his home. He was greeted with hearty cheers from the farmers, and with wavings of innumerable handkerchiefs by the fair hands of their wives and daughters. The reception was entirely unexpected by him. When he got out of

the cars and saw the large crowd assembled before him, he asked what was going on, what they were celebrating. "Your return, Mr. Emerson," was the reply. He was very much touched by this cordial welcome from his friends and neighbors.

Mr. Emerson may be regarded as one of our fraternity, as he taught school in Cambridge for some time after graduation.

In 1842, Hawthorne came to Concord, and lived in the old gambrel-roofed parsonage which he christened the "Old Manse," and in which he wrote one of his most delightful books, "Mosses from an Old Manse." He afterwards established himself at the place he called the "Way-side," on the Boston road. It is a yellowish-brown house with pointed gables, and a square tower which Hawthorne added. The square room at the top of this tower became his sanctum. Enclosing the stairway is a pine box, with such a movable shelf as is sometimes seen in a country school-house. This was Hawthorne's desk, at which he wrote perched on a high stool, with his back to the landscape and his face resolutely turned towards his blank wall of stained deal. Two closets are in the room, over the doors of which he placed red mottoes. The first that greets the eye is :

"All care abandon, ye who enter here."

The second is this :

"There is no joy but calm."

Above the window is the one word : "Olympus." A later occupant has painted landscapes and sea views on the ceiling. Over the mantel, surrounded by an ivy wreath, are the words :

Nathaniel Hawthorne, born, 1804 ; died, May, 1864.

The house is now used as a boarding-school for girls, and Hawthorne's study is occupied as a sleeping-room. It is said that one or two of the young ladies have seen, or dreamed that they have seen, by

the dim moonlight, a form standing at the shelf aforesaid in Hawthorne's customary place, and busily engaged in writing—perhaps finishing "The Dolliver Romance." But at daybreak, both the form and every scrap of paper had vanished. My own impression is that it must have been a dream. It is, however, asserted by the worthy principal that the best compositions in her school come from the pupils who sleep in that room, and that they are unwilling to declare that they write them without assistance. But *what* assistance !

Hawthorne lies buried in Sleepy Hollow Cemetery, in Concord, near the grave of Henry Thoreau, the poet-naturalist, who lived a hermit life of two years in a small house erected by his own hands, on the borders of Walden pond, a mile from Concord. The romancer and the poet sleep together in a spot of great natural beauty, retired like Hawthorne's favorite walk, and peaceful as the woods around Walden's lovely shores. Hawthorne was buried on a bright spring day. The coffin was covered with flowers, among which was placed a wreath of apple blossoms from the "Old Manse," and the unfinished manuscript of "The Dolliver Romance." Only a headstone and a footstone mark the place, each bearing the word "Hawthorne." Some suitable memorial ought to be placed upon the spot. As I stood there one quiet Sunday, looking at his grave, I could not think him dead, but believed that that wonderful, delicate, and yet potent spirit was living and acting in a higher sphere to which his all gracious Creator had exalted him.

I have merely time to mention the names of A. Brownson Alcott, the serene and earnest philosopher, ever ready to converse ; of his daughter, Miss Louisa Alcott, whose praise is in all mouths, and who is declared by some of Mr. Alcott's friends to be one of his best contributions to literature ; of another daughter, Miss Mary Alcott, of whom Ruskin has said that no

one else is competent to copy his favorite Turner.

The Concord sculptor, Mr. Daniel French, although a young man, has already given evidence of much genius in his "Dolly Varden" and other works, especially in his statue of the "Minute Man," which is set on the American side of the battle-ground. Gen. Sherman admired it, and remarked that the face was full of *pluck*.

George William Curtis was for a time a resident of Concord; and Lieut. Derby, better known as John Phoenix, the humorist, who must be remembered in California, for some time tended a shop in this town.

I have written enough, I think, to show you that Concord is a memorable and attractive place. It awakens peculiar emotions in a returned Californian to look upon a house erected in 1650; to read in the old graveyard an inscription bearing the date 1677, and to find upon the rude, moss-covered slate tablets the very names by which he accosts the friends and neighbors whom he meets every day. There are now living in this old town descendants of the farmers who fought in the Concord battle; nay more, there are some families whose ancestors came here long prior to the Revolution.

Among the attractive features of Concord let me not forget to mention the public library, which is larger and better than can be found in any other town in the State; and also the numerous social gatherings which are unceremonious, delightful and improving. At the parties there are no wall-flowers; neither are there gaudy tulips or dahlias or hot-house plants, but our old common friends—dandelion, chicory, golden-rod and white-weed mingle together upon an equality, respected by and respecting one another.

The wisest economy in school management, is to secure the best work at any cost.

SCHOOLS AND SCHOOL LAWS OF MANY LANDS.

BY PROF. G. V. LE VAUX.

[Published by the unanimous request of the Nevada Teachers' Association, before whom it was delivered at their recent quarterly meeting.]

(CONCLUSION.)

MR. PRESIDENT, LADIES AND GENTLEMEN: Our cousins on the Canadian side of "the line" have copied and improved on our school systems aided by exterior light. Of the seven States or Provinces comprising the Dominion, Ontario has the best school system. In 1844, the Government commissioned the Rev. Dr. Ryerson, the Superintendent of Education, to visit Europe and the United States, to study their various school systems, and report the result to the Legislature. After two or three years' absence he returned to Canada and presented his report. He was then authorized to prepare a system of education for the Province, comprising all the best features of all the systems he had studied. In a short time he submitted his report, projecting a system based on the Irish model, more or less modified by the systems of Massachusetts, Ohio, Prussia, etc. This was adopted by the Legislature, and amended from time to time on recommendation of the Superintendent, who for thirty consecutive years continued to preside over its destinies. It is now considered to be one of the best—if not the best—system of education in America. Like our system in many respects, it is very unlike in others. The following are the chief points of difference, and, in the opinion of some, they are characteristic excellencies.

1. In each county there is a school officer called an Inspector (or Superintendent) of schools, who is required by law to examine each school in the county *at least* twice a year; on which occasions, and as a result of such examination, he is, with the teacher's concurrence,

to promote all pupils who deserve that honor. As in the State of Minnesota, this officer is *appointed* by the County Council, or Board of Supervisors, from amongst the first grade teachers of the county. He is appointed during good behavior, and can not be removed except by the Governor. His salary is \$10 a year (equal to \$20 in California) for every school, or division of a school, in his jurisdiction : and the law requires him to devote his whole time to his office.

2. The State Superintendent of Education divides the legislative grants, and other school money, among the several counties, in proportion to their school population, and remits the same to the County Treasurer. The County Inspector then sub-divides the same amongst the several districts in his county, according to the average attendance at the respective schools. He reports the award to the county Treasurer, who then transfers the several amounts to the district or local treasurer, in whose hands it remains, subject to the order of the Trustees. This sum is supplemented by the direct local taxation to be levied by the several Boards of Trustees through the County Council (or Board of Supervisors). The laws empower the Trustees to levy any sum they please for school purposes. They therefore can pay any salary they choose to their teachers—there is absolutely no limit to their power in this respect. As a result, there are no "term" or "half term" schools in the State. The schools are open the whole year, omitting the holidays fixed by law, which are, one month in summer, two weeks at Christmas, and one at Easter, with every Saturday, as with us : and the teachers are all paid during the holidays as well as during working days. In that country no one ever hears of such a thing as "teachers' wages," or "hiring for a term." A teacher's pay is called his salary, and his term of office is during

good behavior, or for life, or until either party severs it by "giving due and timely notice." If he becomes sick, and unable to attend to his duties, the laws give him one month's "sick leave," with pay, on the certificate of a doctor ; and the Trustees, if so disposed, are legally authorized to extend this time at their pleasure. Every teacher is authorized by law to take five holidays, (no two of them to be consecutive) for the purpose of visiting other schools, with the view of acquiring useful hints in teaching from the practice of other teachers. He is of course paid his salary for these days, and required to spend them in *bona fide* professional visits. The laws compel the Trustees to provide a teacher for every fifty or fraction of fifty pupils on the register, whereas our laws only authorize the employment of one teacher for every hundred (and in some cases one for every 114) pupils registered. Yet Canada is a poor country and California is a rich one—rich in this respect at the expense of the teacher and the taught.

3. In Canada, as in Ohio, England, and Ireland, no one can obtain first or second grade certificates without practical experience, and no *ad eundum* certificates are granted. In Ontario, teachers, on entering the profession, have to serve three years on *third* grade certificates before they become eligible for a second grade ; and on receiving a second grade they have to teach two years before admission to examination for first grade ; so that no person can become a first class teacher without having had five years' experience ; at the close of which time he has to pass an examination several degrees more difficult than that prescribed for teachers in this State. With the exception of the Greek and Latin classics, the examination for first grade embraces the whole University course. There are, of course, different papers set for the different grades.

4. The County Board of Examination

can grant only *third* class certificates. The papers of second and first grade applicants are sent for examination to the Central or State Board of Examiners. First and second grade certificates are granted for life ; so that if the examination is difficult, the ordeal has to be passed but once in a lifetime. About five per cent. of the candidates receive first grade ; about twenty per cent. receive second grade, and the rest have to be thankful for third. In the whole State there are only 360 first grade teachers out of a total of 6000. No person is eligible as Inspector of schools who does not hold a first grade certificate.

5. Teachers receive pensions on attaining a certain age, or when they become unfit for service. While engaged in the profession, they are required to pay \$5.00 a year to the Government Fund provided for superannuation purposes. But local Boards of Trustees generally pay this tax on behalf of the teacher ; so that he becomes entitled to the benefit without personal expense from year to year.

6. The State Board of Education is now partially superseded by the appointment of a responsible "Minister of Education." It was composed of a fixed number of members—two-thirds appointed by the government and *one-third elected* by the teachers of Universities and public schools. The traveling and other expenses of members in attendance are paid. They usually meet once a quarter. The State Superintendent is *ex-officio* Chairman. Doubtless the position will now be held by the Minister of Education. This educational legislature (as we may call it) is, perhaps, the best organization of its kind in the world. It is generally believed by Canadians that more real, abiding good has been done by this Board during the short time it was in supreme charge of educational interests than was done during all the years that preceded its creation. Moreover, all the progress (whether justly or unjustly) is ascribed to

the *elective element* on the Board—which not only represents, but gives practical and immediate effect to, the collective views of the great majority of practical teachers.

7. Each county of Ontario has its teachers' association, such as this : The members meet quarterly as here. There is also a central or State Association, which meets once a year—during the summer holidays. It is composed of delegates from the county associations. Each county association pays the expenses of its delegates. Sometimes two or more counties are represented by the same delegate, and share the expense. Distant counties commission some well-known teacher at the metropolis, or vicinity, to represent them by proxy. The special business of this central or State Association is to recommend text-books for use in the public schools, to protect the interests of the profession, discuss educational matters, and make such representations to the State Board and Legislature, in the name of the whole body of public school teachers, as *they*, after due consideration, may think proper or beneficial to the cause of education. All changes in the school laws—improvements, additions or amendments—emanate from this body. The legislature is always thankful for their suggestions, and the State Board of Education seldom, if ever, introduce any new regulation for the public schools without first securing an *expression of opinion*, concerning the same, from the Annual Convention of the Teachers' Association.

It was the timely representation of this organization, and their influence on the people and the government, with the sympathetic and long-continued official co-operation of the venerable State Superintendent, which has given the profession its present enviable standing in the great and enlightened Province of Ontario, and enabled Canadians to rival, if not surpass, the educational development of our proudest and most ancient States.

The public school was introduced into British Columbia in 1872. Its father and founder, (and State Superintendent) the Hon. John Jessop, is a graduate of an Eastern Normal School, and one of the most energetic and successful educational officers on this coast. The system is similar to that of Ontario. A school tax of \$3 per head is levied off every male resident, except clergymen. So far as I can learn, this tax is peculiar to British Columbia, and was imposed to make Chinamen (of whom there are a large number) contribute their quota of the general expenditure. Teachers are engaged indefinitely, as in Ontario, either party having the right to dissolve relations at any time, by giving due notice. They receive pay for every month in the year—holidays as well as working days. They, doubtless, owe this favor to their worthy State Superintendent, who, being an old teacher himself, knew that teachers had to eat, drink, and pay rents during July and August as well as at other times, and that in order to retain good teachers in the profession, (and thus prevent endless change and confusion in the service) they must be secured the means of living at all seasons, and be legally entitled to their pay for every day in the year. The legal holidays for which all teachers receive pay are : one month in summer, two weeks at Christmas, and one at Easter.

The schools of Australia are founded on the Irish model, which is itself modelled on the Massachusetts system. The American Encyclopedia considers them as worthy to rank amongst the best schools in the world. Victoria, which is said to have a population nearly twice as large as that of California, pays its teachers a certain fixed salary, according to the grade of their certificate. This is supplemented by pupils' fees, and a capitation allowance on the promotion, by the Inspector, of pupils from a lower to a higher class or grade. This capitation allowance is called *payment*

by results, and may probably at no distant day become law in some of our States. The system works well in towns or densely settled districts, but is very injurious to the teacher's interest when the population is scattered, as in our country sections. This is the opinion of several experienced Australian teachers of our acquaintance ; also of Hon. W. Venables, City Superintendent of schools in Melbourne. On attaining a certain age, or on becoming incapable of further efficient service, teachers receive pensions.

In some of the Australian States, as in others nearer home, certain extreme men —both Catholic and Protestant—make it their business not only to find fault with our public schools, but to preach "crusades" against them, pretending (in their innocence or ignorance, or else in the dark depths of their bigotry and intolerance) to believe them to be "Godless institutions" ; nurseries of hell rather than of heaven ; and, as if to convince us of their sincerity, they in some cases establish and maintain, in a more or less sickly state, denominational institutions, in which the liberal teachings of Christianity, life, and light are supplemented by the narrow prejudices peculiar to sectional feeling and sectarian strife. It is gratifying, however, to know that these one-armed, so-called religious academies are fast dying out in the old world—being unable to live in the presence of the public schools.

Recently, I have noticed articles in many papers which prove to us that we have extreme men even in California. We have heard our public schools assailed and misrepresented on every side by misguided citizens. It is therefore the more necessary for us to be true to ourselves, to each other, and to the great cause we represent—the cause of public education, which is liberty, light, and life to the world. When storms assail the ship, it behooves the crew to be "ever on the alert." If we would

serve the public and the profession to the best of our ability, and improve and consolidate what has come down to us from our fathers, then, like the early Christians, we must not neglect "the frequent assembling of ourselves together" for mutual instruction, counsel and support.

When commencing this paper, Mr. President, I had intended to review certain portions of our school laws, contrasting them with those of other countries; but as I have already exceeded the time I expected to occupy, and possibly severely tested your patience, I will now bring my remarks to a close. Ladies and gentlemen, I thank you most sincerely for the kind attention you have given me, and respectfully request your indulgence for any error in matter or manner.

WHO SHALL TEACH ?

BY A. W. OLIVER.

The wise builder, who would erect a structure that shall unite beauty of proportion and grace of ornament, while it ministers most perfectly to the health and comfort of his family, first carefully prepares his designs. It is only after the specifications have been reduced to writing, that he selects his master-workmen. Even then, when the erection of the work has been committed to other hands, every day sees the owner upon the premises, scrutinizing the material and noting the progress, to see that everything corresponds with the written contract. No unsound lumber shall enter into this noble building; no element of weakness or deformity shall mar the beauty of the mansion upon which he so freely lavishes his time and money. The saving of a few hundred dollars will not tempt him to employ an inferior workman, who might violate the principles of good taste in an edifice that shall be the pride of his loved ones for many happy years.

"The house we live in," is designed with infinite wisdom. But this is a living structure; the soul that inhabits it has a hand in its construction. The divine plan is often grossly violated in the very foundation; and at an age when it should be staunch and strong and beautiful, it is often weak and sickly, a melancholy monument of premature decay.

The being who inhabits this tenement partakes of the nature of the house he lives in. His intellect is enfeebled and his moral sense blunted by a single error in the workmanship.

Who shall superintend the erection of these precious temples? Who shall select the materials for these mysterious buildings? Who can read the specifications engraved upon every timber, as this wonderful structure rises under the silent strokes of invisible hands? The man or woman wise to read, faithful to observe, and skillful to execute the Divine plan in youthful bodies, must be the teacher of our children.

Shall we commit the physical training of our boys and girls to those who are not wise enough to understand, or strong enough to obey, the laws governing their own bodies? The multitudes of diseased men and women, in all the different stages of premature decay—often the fruit of youthful ignorance or vice—the vast numbers of dear little children, pale, listless, and wretched, looking in vain for some one to take them by the hand, and lead them to the fountain of health and happiness, *imperatively demand* that our teachers be such as *understand* and *obey* the Gospel of Hygiene as written in the human body.

Anatomy and physiology, as taught in our public schools, are too often a solemn farce. A boy may have for his instructor the ablest surgeon in the land; he may be required every day to point out and name every bone and joint in the wired fossil of some defunct human, and yet be in the

daily practice of vices that are sapping his vitality, and wasting in youth the forces necessary to a vigorous manhood, and a "green old age." Society is to-day blotted all over with the pitiful wrecks of humanity—the logical results of an education whose energy is expended in making our youth familiar with the "dry bones" of the science of health, instead of teaching them how to hold every appetite and passion under perfect rein.

The highest mental and moral development are consistent only with the most perfect physical health. Enfeebled minds and corrupt morals are penalties that nature exacts for the violation of her laws.

The teacher, fitted for his great trust, should be able wisely, by example and by precept, to warn his pupils against every vicious practice. The minister, whose corrupt habits on Monday give the lie to his Sunday's sermon, inflicts upon society a wrong, light, when compared with the poison infused into the veins of society by a vicious guide of our youth.

In the name of our little boys and girls, who *grow toward their teachers* as plants grow toward the sun; in the name of society, constantly receiving from our public schools accessions of virtue or of vice; in the name of our loved Republic, whose life-blood is purified or poisoned by our popular system of education; in the name of God, who has created these children in his own image, and who expects us to preserve that image clear-cut and beautiful, I protest against the awful sacrilege of putting into the school-room, as models for our young immortals, men and women of corrupt lives. Let us commit the building of our stately mansions to unskilled artizans; let us trust all our earthly wealth to dishonest advocates; let us summon to the bed-side of our loved ones, physicians, whose trembling nerves and reeking breath too well attest that the bar-room, and not the study, is their nightly resort;

but, in the name of a fallen race, struggling blindly up these many centuries, amid groans and tears and untold agony, toward their forfeited birthright of perfect manhood and perfect womanhood; in the name of the countless millions who have laid their carcasses in the wilderness of physical transgression, shut out from the Promised Land for disobeying the Divine Gospel as written in their bodies, I protest against the too common practice of committing the training of our youth to teachers who have never learned to curb their own appetites and passions; to unprincipled men and women, who will stamp upon our darlings their own image, and send them halt and disfigured through all eternity.

As a model for the student of art, no painting can be too beautiful, no statue too symmetrical. What models of correct lives shall we set in the school-room, where the statues to be molded are human souls; the prize for success, eternal life!

We must commit the training of our youth to the noblest and best characters our country can produce, if we would arrest the moral decay that is loosening the very foundations of our government. The real life of a nation cannot be measured by the mere outward signs of prosperity; these may remain long after the genius that created them has departed. History shows that nations have often plunged, in a single generation, from apparent security to anarchy and ruin. Sterling individual character constitutes the only pillars of a republic. Let these decay, or let them be supplanted by pride, ambition, arrogance, and dishonesty, and popular corruption will inevitably beget leeches, who will seize upon any great national election to ride into power, or else trample upon the ruins of their country.

The baptism of blood from which our nation has but just emerged has not been altogether one of purification. The dark

stains of corruption have fastened upon society, North and South, and the labor of a generation cannot remove them. The vile brood of evil passions, born amid the bloody throes of civil war, still riot in the hearts of thousands. Suddenly-acquired wealth, the fruit of shoddy army contracts, has demoralized multitudes all over the country. The great stock-gambling rings are corrupting and impoverishing the masses, by false promises of wealth without the tedious process of honest industry. Great expectations beget artificial wants; these create extravagant habits among the poor, plunging them into the slavery of debt. The great tidal wave that has just rolled across our country had its origin deep down in the popular heart. The practical serfdom to which extravagant habits, dissipation and low wages have reduced so large a portion of the laboring classes, is an element peculiarly dangerous in a popular government—a magazine which any unprincipled political leader may fire at will. The *real agents* in any such popular uprising cannot be pierced by bayonets, or silenced by the thunders of cannon. As long as hundreds of thousands of families are driven to the verge of desperation by a grinding poverty, which no adequate moral training teaches them is principally the fruit of their own habits, we may at any time look for a repetition of the recent strikes, but upon a more dangerous, because upon a more extensive and better organized plan. Against these gigantic evils our pulpits are powerless. The remedy lies in but one direction. The next generation is in our public schools to-day. Let us search society through and through for clear-headed, large-hearted, wise, and practical men and women, and let us *compel* them to enter our school-rooms, and so model our youth in moral and social science that corruption, extravagance, and dissipation, with their whole litter of artificial wants, shall slink

away to their kennels from before the face of a noble manhood and a pure womanhood.

CAMPING OUT IN THE SIERRA NEVADAS.

BY S. S. BOYNTON.

Off at last! All the morning we had been busy getting our guns and fishing rods in order, putting up provisions and rolling up bedding for a five days trip to Lassen Geysers and Boiling Lake.

Will and Isaac, with their cousins Ella and Julia C., occupy one wagon, while Mrs. B. and I have a second one to ourselves. Isaac drives a pair of strong mules, that mule-like, are bound to be contrary. One of their peculiarities that we have frequent occasion to notice is their determination to go slow where the road is smooth, but to hurry the moment it becomes rough and rocky. For ten miles our way lies through a lovely green valley, encircled by dark hills covered with grand old forests of spruce and pine, and then we commence the ascent of a mountain ridge leading to another valley some fifteen miles further on. Bright, clear streams dash down from the rocky heights above. Blue-jays cry in harsh discordant tones from the huge sugar-pines, that throw their long shadows across the road. The graceful gray squirrels, with their long, bushy tails, are seen whisking about on all sides, as if to cheer and enliven the way.

At one o'clock we stop beside a pure, ice-cold stream, and while Isaac ties his mules fast to a young alder, Will helps out the ladies, and passes out the lunch basket.

A shady spot beside the water is chosen, the basket is opened and the fresh bread and butter, ham, chicken, jelly and cake rapidly disappear before our appetite, rendered keen by four hours of mountain travel. A few moments of rest after our

lunch, and then we are off again, and in half an hour reach the summit. We hurry down the long, winding grade, raising clouds of dust that hang over the road like white mist above the water courses during the cold mornings of fall.

All at once we hear the cry from Will of "There it is! There it is!" and in a moment snow-capped Mt. Lassen, second only in Northern California to glorious old Shasta, looms up before us, head and shoulders higher than its surrounding neighbors. Before us opens a broad green valley, crossed by several streams, clear as crystal and famous for trout. As we enter the valley we cross a deep, dark, stream; follow along the edge of the valley through dense coniferous forests for several miles, and about four o'clock turn into the more open valley, and camp beneath a lovely grove of tamaracks, on the bank of a broad, clear stream, flowing from a mammoth spring. The animals are quickly unharnessed and picketed out on the rich grass; the wagons are unloaded, and in less than half an hour all six of us are floating down the gentle current in a boat that happened to be near the grove. The water is so clear that it appears only a few inches in depth, though it is really up to one's waist. Tall tules and bunches of brown willows hide the view on either side as we row lazily down the stream.

Hundreds of small fish glide through the transparent water, while now and then a wild duck is scared up from the quiet pools near the shore. A mile of this smooth gliding with the current, and then we turn our prow up the stream again. Just as we turn, another boat comes round a point near at hand, and "A race! a race!" is the cry in both boats. Muscular arms ply the flashing oars, and the boats shoot forward as though driven by steam. On we dash, every one glowing with excitement, and each aiding in the race as much as possible. They gain on us slow-

ly, are abreast of us; no, we are ahead. How we work at those oars; the boat seems to quiver from stem to stern. We gain a little, but just at that moment Will threw his oar out of the row-lock, and over backwards he went, dashing the water over Mrs. B. and bumping his own head till he saw stars without number.

The race is of course lost, but we are somewhat consoled by a hearty laugh over Will's involuntary gymnastics.

Our lunch basket was by no means empty, so we had no need to cook anything that night or the next morning. A huge fire crackled and burned fiercely, sending its long fiery tongues high into the air, and giving out light and warmth on every side. Around this, on improvised seats from boxes and cushions, we sat and chatted until the lateness of the hour caused us to hurry into bed, and to sleep so soundly that we heeded not the light wind sighing through the tamaracks or the gentle ripple of the stream near at hand.

Next morning we were up and off by sunrise. The air was sharp and bracing, while the frost lay heavy and white on the dry grass and fallen timber. The cloud-like mist rose up slowly from the water courses through the open valley, and the smoke curled up leisurely from the dairyman's cabin or the camper's tent. Ten miles along the edge of the valley, and then we enter the hills again, losing sight of Lassen's white top as we leave the valley behind. Another hour and we leave the traveled road and enter a narrow canyon, shut in by high cliffs or rocky hills. A clear, little creek came rushing down the rocky parts of the canyon or creeping lazily along through the level, grassy flats that opened at intervals. As we entered a stretch of hazel underbrush, Will and I leaped from our wagons, and bang! bang! went our guns to right and left. Whirr! whirr! was heard from quail on every side, but not until we bagged a plentiful mess of

quail for our evening meal. Five miles of this canyon travel, and lo! a grassy valley encircled by steep, rocky hills, and a deep, blue mirror-like lake in the center of the valley.

Isaac hurries his mules to their quickest pace up the side of the valley, and we pick a pleasant camping spot beneath a grove of firs, about half a mile above the lake.

The light, elastic fir boughs serve as an excellent substitute for a mattress, and the dead limbs are convenient for firewood. Our animals are staked upon the high, rich grass near at hand, and as soon as lunch is over, Isaac and the three ladies are off for trout fishing in the lake. Will and I cross the little valley and skirt the opposite side of the lake in search of quail and grouse. A long, tiresome tramp brings no reward, and so we retrace our steps. In passing a willow thicket Will suddenly cries, "There they are," and instantly his gun is leveled at a flock of quail.

Three fine, fat ones fall into our hands as the result of the shot. How we feasted that night for supper. How rich and delicious the fried trout! How tender and sweet the broiled quail! There had been some talk of awarding a leather medal to the greatest eater, but ere supper was concluded five out of the six were fully entitled to a medal for excelling in that line. Modesty forbids that I should say who the sixth one was.

Around us that night a solemn quiet fell, broken only by the crackling boughs of our camp-fire, the dismal hoot of the owl, or the lonesome howl of the coyote. The morning dawned bright and pleasant. Isaac awoke us with a "Hip, hip, hurrah for the Geysers!" and in a few moments we were up and busy getting breakfast. In spite of blackened hands and eyes filled with smoke, we managed to cook enough to eat, and as soon as possible were off up the rocky ridge leading to the Geysers.

Our cavalcade would have presented a

comical appearance to an observer. Two of the ladies were on horseback and one on a mule; each had a harness, bridle and a blanket strapped on for a saddle. To help ourselves up the steep hill, Will and I grasped a horse by the tail and held fast. Poor Isaac was unfortunate, for the mule would kick at anything within reach of him. An hour of steady climbing and we are at an altitude of six thousand feet, and five or six hundred feet higher than our camp at Willow Lake. The little valley, with its deep blue lake lies like an emerald gem set amid the dark hills, while,

"Green belted with eternal pines
The mountains stretch away."

At last we catch a glimpse of steam rising through the tree tops to our right. All hurry forward; the ladies dismount, and we rush down the steep bank or hill-side into a deep, rocky canyon, where the Geysers are situated. Three great springs, each of them eighteen or twenty feet in diameter, are bubbling and boiling furiously, sending up clouds of steam smelling most abominably. One of these huge springs throws up a large volume of water, boiling hot, to a height of five or six feet, while the spray dashes up to twice that height every few moments. Above the springs the rocky hill-side roars and rumbles, sending forth a hundred small jets of steam. Below the springs a small stream of scalding hot water trickles down the narrow canyon, cooling rapidly as it descends, until at the edge of the green valley, where our camp is, we use the same water to drink and to cook with.

Beautiful crystals of various colors cover the rocks, while the clays around the springs are marked by shades of red, purple, pink and brown.

Lovely banks of fine velvet-like grass and a spring of pure, cold water are found within twenty-five or thirty feet of the largest geyser. Near this little cold spring a small steam-jet threw up a slender puff

eight or ten times a minute. Mrs. B. and Miss C. concluded to try the effect of stopping up this vent with clay. After waiting three or four minutes, and while standing close beside it, the clay, and perhaps a pint of hot water, together with the escaping steam, was thrown up some thirty or forty inches. The ladies sprang quickly back, and their startled looks and sudden exclamations made us all hurry to the spot. Will enjoyed their discomfiture fully as much as they had his gymnastics while boating.

Leaving the Geysers, we follow along a high ridge of lava rock for a couple of miles to the so-called Boiling Lake. This is a pool some six hundred feet long and three hundred wide, of almost scalding hot water the color of milk, and in places almost as thick as cream. Little mud volcanoes, numerous steam jets, and dozens of boiling springs, some of them having a diabolical aspect, surround the lake. Sulphur and alum deposits occur in places, and the rocks are so hot that one can hardly stand upon them. The hissing sound of escaping steam, the furious boiling of numerous springs, and the strong, almost sickening sulphurous smell made us hasten away from this part of the lake as soon as possible. Once more our cavalcade is in motion. We retrace our steps as fast as possible, stopping a short time again at the Geysers, and then, tired, dusty, and hungry, continue on down the mountain, near Willow Lake. The animals were picketed out where the grass was high; our cold meats and the last of our morning's bread were greedily devoured, and after a good long rest, we hitched up and drove down the rocky canyon of Willow Creek to the main road, which we followed back to Big Meadows, where we camped for the night.

Our camp at night was again made in a tamarack grove, but this time at a distance from any stream. Our animals were stabled in a dairyman's barn, and from his

well and dairy we obtained supplies of milk and water. Every one was tired, yet we could not camp till late, and then supper had to be cooked.

The smoke blew into our eyes, the soot blackened our hands and faces, while the meat was slow to get done, and the tea managed to upset, almost putting out our fire.

That night, as we huddled around the camp-fire, with the black clouds flying overhead, and the wild wind roaring through the tree-tops, made us think camp-life in the Sierras anything but desirable.

Morning dawned, however, as bright and smiling as the face of a joyous child, and we hastened our preparations for starting, in order to have time to fish. After a ride of two hours we came to a swift, dark stream; the poles were soon put together, some grashoppers caught, and four of the party were soon catching a mess of speckled trout for the folks at home.

In less than an hour's time we were off again, and after driving a short distance left the main road to visit a lovely fall in the largest stream of the valley. Huge rocks, overgrown with a velvet-like moss, break the smooth-gliding stream into a mass of feathery, white foam, that fell some ten or twelve feet, and then rushed furiously down a rocky bed, and formed a deep, clear, lake-like pond below.

On the edge of the stream stands an old-fashioned saw-mill, dark and weather-beaten by years of exposure to the mountain storms.

But time pressed, and we retraced our steps to the main road again, and were soon climbing the rocky ridge which we had crossed on our first day's travel from home. By the middle of the afternoon we entered the deep, quiet valley, nestled beneath the shadow of high, rugged mountains, drove through its green lanes, and reached home in time for a good, hot supper.

Our five days' trip has seemed but an hour, yet the scenes and impressions left in our memory will last for months, and cheer and refresh us after our return to the monotonous school-room duties.

THE METRIC SYSTEM of WEIGHTS AND MEASURES.

BY A. P. MARBLE.

Familiarity with the numerous and irregular tables of weights and measures in use conceals their inconvenience. We have three pounds : Avoirdupois, Apothecaries' and Troy. There are three quarts : the Beer quart, the Imperial quart, and the Dry quart. For length, there is Long measure and Surveyor's measure. The cord and the perch have several values, according to locality. There are numerous repetitions and inaccuracies, and endless irregularity in these tables, with no relation between one and another. There is no easy comparison between length and solidity, and capacity, or weight. The

time required to learn all this confusion, and the labor of making the necessary reductions in the course of business is simply enormous, and we fail to notice it only because we have never known a simpler way. Besides, nobody really knows all the tables of measures in use : we confine ourselves to the few we have occasion to use.

The French Metric System is simple and regular. It is as easy to learn as the table of United States money. Having the measure of length, one can pass at once, by a simple change of the decimal point, to capacity and weight, for the *liter* is a cubic *deci-meter*, and the *kilo-gram* is the weight of a liter of water.

The objection principally urged against this system is : first, the difficult names ; and, second, the transition from the old system. As seen in the following table, there are only four new names :

<i>Hepto</i>	one hundred
<i>Kilo</i>	one thousand
<i>Liter</i>	a quart
<i>Gram</i>	1-30 ounce.



TO THE LEARNER.—This table is designed to show the extreme simplicity of the Metric Measures and Weights. It is a peculiarity of the arrangement, that the several denominations stand, in the table, in the same order as in the written numbers of those denominations. In all the Measures—money, length, surface, solidity, capacity and weight—the UNITS stand in the same vertical column; and so of each division, deci-(1-10), centi-(1-100), milli-(1-1000), and of each multiple, deka-(10), hepto-(100), kilo-(1000). Values in the Metric System, as in United States Money, are written like ordinary numbers in the Arabic Notation, thus:

(E)	(S)	(d)	(ct)	(m)	Kilo-meter (K m)	Hepto — (H m)	Deka — (D m)	Meter — (m)	Deci — (d m)	Centi — (c m)	Milli — (m m)	Kilo-liter (K l)	Hepto — (H l)	Deka — (D l)	Liter — (l)	Deci — (d l)	Centi — (c l)	Milli — (m l)	Kilo-gram (K g)	Hepto — (H g)	Deka — (D g)	Gram — (g)	Deci — (d g)	Centi — (c g)	Milli — (m g)				
2	3	5	Eagle.	Dollar.	2	3	5	6 . 4	7	8		2	3	5	6 . 4	7	8	2	3	5	6 . 4	7	8	2	3	5	6 . 4	7	8
			Dime																										
			Cent.																										
			Mill.																										
			read																										
			\$2356.478																										

In **Square Measure**, each denomination occupies two places;
in **Cubic Measure**, three.

and for heavy goods
2,356 kilo.

These tables are copyrighted by Scribner, Armstrong & Co., New York. Teachers may obtain them there, or from the author, Hon. A. P. Marble, Superintendent of Worcester, Mass.

Note 1. Values for Reductions—Cubic, to Dry or Liquid Measure and to Weight.

The meter is 39.37 inches—a little more than 1 yard; the deci-meter is about 4 inches. The liter (leeter) is 1 cu. deci-meter—about 1 quart; a liter of water weighs 1 kilo-gram—about 2 1-5 pounds. The gram is the weight of 1 cu. centi-meter of water—about 1-30 ounce avoirdupois. The 5 cent nickel weighs 5 grams. Our silver coins are metric—4 cents to the gram.

Note 2. Names now in use.

Meter means measure: as gas-meter, water-meter, thermo-meter. The names *mill*, *cent*, *dime*, in United States Money, correspond to *milli*, *centi*, *deci*, in the Metric System. The eagle might be called a *deka-dollar*, because it is ten dollars; the dime, a *deci-dollar*, etc. We have the *deka-toque*, or 10 commandments.*

Note 3. There are only four new terms in this system:

Liter—the unit of capacity, Dry or Liquid;
Gram—the unit of weight;

Hekto—meaning 10 deka—or 100 of the units;
Kilo—meaning 10 hekto—or 1000 of the units.

Note 4. How to read Metric Values.

275.46 (dollars) may be read: 27 eagles, 5 dollars, 4 dimes, 6 cents.

Practically we say: 275 dollars, 46 cents. Written \$275.46.

275.46 (meters) may be read: 2 hekto-meters, 7 deka-meters, 5 meters, 4 deci-meters, 6 centi-meters.

Practically we say: 275 meters, 46 centi-meters, and-so-forth. Written 275.46.

Note 5. A few other names may be used, but they are not essential.

The *myria-meter* is 10 kilo-meters; the *myria-gram*, 10 kilo-grams, or 10,000 grams, etc.

The *ton* is 1000 kilo-grams, or the weight of 1 cu. meter of water; it nearly equals the "long ton." The *ar* is 1 sq. deka-meter of land; the *hekto-ar*, 1 sq. hekto-meter. The *ster* is 1 cu. meter of fire-wood.

**HEKA-TOMB* means a sacrifice of 100 oxen; *EILI-ARCH*, a commander of 1000 men; and *MYRIAD*, 10,000—commonly spelled *DECALOGUE*, *HECATOMB*, *CHILIARCH*.

UNITED STATES MONEY.

10 equal 1 of the next higher.

Eagle,	DOLLAR.	Dime,	Cent,	Mill.
(Deci-mal.)				

MÉTRIC SYSTEM.

The lowest denomination is placed at the right, as U. S. Money and Metric Numbers are written.

For the dash — read the UNIT of the Measure, that is, MÉTER, LITER, or GRAM.

Long Measure.

10 equal 1 of the next higher.

Kilo—	Hekto—	Deka—	METER.	Deci—	Centi—	Milli—
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Square Measure.

100 equal 1 of the next higher.

Sq. Kilo—	Sq. Hekto—	Sq. Deka—	SQ. METER.	Sq. Deci—	Sq. Centi—	Sq. Milli—
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Cubic Measure.

1000 equal 1 of the next higher.

Cu. Kilo—	Cu. Hekto—	Cu. Deka—	CU. METER.	Cu. Deci—	Cu. Centi—	Cu. Milli—
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Dry or Liquid Measure.

10 equal 1 of the next higher.

Kilo—	Hekto—	Deka—	LITER.	Deci—	Centi—	Milli—
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Weight.

10 equal 1 of the next higher.

Kilo—	Hekto—	Deka—	GRAM.	Deci—	Centi—	Milli—
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The Spelling and Pronunciation is that adopted by the American Metric Bureau, Boston, and the American Metrological Society, New York. Each PREFIX a separate word, accent on the first syllable, with short sound of e and i.

As to the transition, we might say yard instead of *meter*; pound instead of *kilogram*; and quart instead of *liter*: and divide these into tenths, and we should have the system. It is far better, however, for the sake of uniformity with other nations, to use the proper terms.

If the system were once fully understood, its very simplicity would lead to its immediate adoption; and the bugbear of the change from the old measures to the new,

and the reductions which would constantly occur, need trouble no one. The values of the old in terms of the new, and *vice versa*, need not be memorized; they can be printed on a small pocket card for reference. There is no more need of remembering them all than of carrying a pound weight, or a rod measure, in the pocket to help remember the value of these terms.

The following tables can all be fixed in the mind by a simple comparison with the

table of United States money, placed above for comparison, and to aid the memory. (See note 2.)

The pronunciation is very simple if only the prefixes are separated from the units. *Milli, centi, deci*—thousandth, hundredth, tenth, like mill, cent, dime, indicate the divisions; and *deka, hekto, kilo*—ten, hundred, thousand, indicate the multiples of the unit of measure. The arrangement of the metric tables below the table of United States money, with the same sub-divisions and multiples in the same vertical column fixes these tables and all their denominations in the mind at a single glance. The notes contain all the ratios with which the memory need be burdened, and the method of writing is shown on page 4.

A few minutes careful study will make any one master of these simple tables.

SOME OF THE DUTIES OF THE FRIENDS OF OUR PUBLIC SCHOOLS.

BY THOMAS H. STEEL.

In accordance with a provision of the Constitution of our State, we have a system of public instruction, of which every citizen may justly be proud. To suppose, however, that the citizens of this, or of any other State, are near enough of one mind for all to think, either favorably or unfavorably, of any one institution, is to suppose a thing which experience shows never has existed; therefore, it would be strange indeed if there were not found *some* ready to cry out against, and denounce even so beneficent an institution as our present educational system.

I do not claim that it *is*, or that it ought to be *considered* above criticism; a just criticism will always prove beneficial; it will have a good and healthful influence, and should be invited rather than repelled; but, when public speakers and public

newspapers charge all the disorder that may exist in the principal cities of our State to some imaginary defect in our educational system, it is the duty of the friends of that system to repel the charge, and to show, as they easily can, that it is altogether without foundation. The principal fact in connection with this matter is, that the public schools are the only influence for *good* that is brought to bear upon the minds of a very large majority of children that have a pre-disposition to be reckless and ungovernable. The parents of such children, having comparatively little discipline of mind themselves, are but poorly qualified to discipline the minds of their children.

The influence of the Sunday-school seldom reaches this class, for that is an institution which they seldom attend; therefore, we may conclude that in a public school, conducted in accordance with the regulations of the State Board of Education, this very class may receive more culture—intellectual, physical, moral, and social—than they receive from all other sources combined.

I have no disposition to go into ecstacies about what our public schools are accomplishing, but I do claim that in them, thousands of young men gain much useful knowledge, and that in the acquisition of this, they acquire a certain discipline of mind which is necessary for them to possess before entering upon any especial vocation.

After making considerable inquiry concerning the whereabouts and the occupation of those who have graduated from the schools of Marysville and the surrounding country, during the past ten years, I conclude that fully ninety-six per cent. of those now living are obtaining their subsistence honorably; some, of course are doing more good in the world than others, but none of these are either vagrants or hoodlums.

This being true, it is the duty of every friend of general education, of law, order, and good society, to uphold our public school system as it now exists, to disown and oppose anything like a revolutionizing course, and to endeavor to make more effective that which we already have.

This efficiency might be attained if parents would send their children regularly to school, irregularity of attendance being the greatest obstacle with which teachers have to contend; but a large per cent. of pupils do not attend school regularly, and a still larger per cent., of census children, do not attend at all.

Now, it is the duty of the friends of public schools to use their influence, as best they may for the removal, or, at least, the abatement of these two evils. We should petition the Legislature, now in session, for additional legislation, in order to make more operative the law in reference to protecting the educational rights of children. Let us, if possible, bring the children within the influence of the public schools, and industry and order will characterize us as a people.

MARS AND HIS MOONS.

BY E. W. STURDY.

The recent discovery by Professor Asaph Hall, United States navy, of the satellites of Mars has tended to increase the interest in the study of that planet, not only by the astronomers and scientific men, but by the thinking public at large. The various theories as to this planet have been treated at length at different times in the *Cornhill Magazine*, and it may be interesting to sketch them briefly here. One is the theory that the planet is at present inhabited, and that, too, by creatures which, though they may differ very much from the inhabitants of this earth in shape and appear-

ance, may yet be as high in the scale of living creatures. This theory assumes as probable the belief that among the inhabitants of Mars are creatures endowed with reason. According to another theory, neither vegetable nor animal forms known to us could exist on the planet. Yet another theory, an intermediate one, holds that each planet has a life-bearing stage, but that the duration of this stage of its existence, though measurable perhaps by hundreds of millions of years, is yet exceedingly short by comparison with the duration of the preceding stage of preparation and the sequent stage of decay and death.

By the application of the laws of probability, the chances are shown to be very small that life exists at this present time on any planet selected at random, so that the period of a planet's fitness for life being short compared with the preceding and following stages, the chances are very small that any time taken at random would fall within the period of any given planet's fitness to be the abode of living creatures. Two conclusions follow from this theory: first, our earth is but one among many millions of worlds inhabited at the present time; secondly, every planet is at some time or other, and for a very long period, the abode of life. This theory, while recognizing that natural processes like those going on in our earth are at present manifested in Mars, calls to notice the fact that for countless ages in the past, mighty processes of disturbance and continuous processes of steady change took place in our earth, when as yet there was no life, and that life will probably have ceased to exist on this earth millions of years before the land, and sea, and air will cease to be the scene of nature's active but unconscious workings.

Being much farther from the sun than we are, Mars receives much less direct heat; and his orbit being outside the earth, he

was probably formed far earlier, and as he is much smaller, he cooled more quickly than the earth. His mass is not much more than one-ninth of hers, while his surface is about one-third of hers. Then, if originally formed of the same temperature, he had only one-ninth her amount of heat to distribute. If he had radiated it away at one-ninth of her rate, his supply would have lasted as long; but radiation takes place from the surface in proportion to the surface, hence he parted with it three times as fast as he should have done to cool at the same rate as the earth, and must have attained a condition which she will not attain until three times as long an interval has elapsed from the era of her first existence than has already elapsed. Geologists agree that the last-named period must be measured by many millions of years; hence it follows that twice as many millions of years must elapse before our earth will be in the same condition as Mars, and Mars must be three times as far on the way toward planetary decrepitude and death as our earth. Then assigning two hundred thousand years as the extreme duration of the period during which men capable of studying the problems of the universe have existed, and will exist on this earth, the theory holds that Mars would have entered on that stage of his existence many millions of years ago, and that the appearance of the planet itself implies a much later stage of planetary existence.

With the naked eye, Mars is principally remarkable for its ruddy color, and in the telescope this color is not lost, but confined to particular regions, and the intermediate parts are of a darker and greenish hue. On the opposite side of his disk, two bright spots of white light are seen, presenting the same appearance as would our snowy poles to an observer on the planet Venus. These reddish spots and darker regions between are permanent peculiarities, and were first discovered by Cassini. Dawes

made such excellent pictures of the planet that from them Proctor constructed his chart. The names attached to the different portions are those of astronomers whose observations have thrown light upon the geography of the planet.

The markings on Mars are not always visible when the part to which they belong is turned toward us. A veil which has nothing to do with the distinctness of our atmosphere is sometimes drawn over it for hours and even days. In October, 1862, Lockyer was observing Mars, and noticed that a part of Dawes' ocean was hidden from view. A faint, misty light was noticeable, but later he saw that the outlines gradually became clearer, though the white light continued until he gave up observation. Dawes, later on the same night, also observed Mars. His drawing at that time showed that the veil had been lifted, but traces of the misty light seen by Lockyer were still to be detected in the drawing. An eminent French astronomer argued that vegetation on Mars is red, losing its ruddy tint in winter. If this be true, such changes as were noticed by Lockyer and Dawes would indicate a sudden blooming forth of vegetation over hundreds of square miles. Knowing the position of the planet's equator, we can tell what season is in progress in either hemisphere, and it has been observed that the hemisphere where winter is reigning is nearly always covered by just such a veil as has been mentioned. An observer on Venus watching our earth would observe a hiding of the features of that hemisphere which was presented to him in its winter season, for fogs and rain and snow are more prevalent with us in winter than in summer. The cold air of winter, unable to retain the aqueous vapor passing into it, is forced to precipitate it in the form of fog, mist, rain or snow, an exact counterpart of processes recognized on earth. Our winter clouds, instead of increasing the coldness by keeping off the

sun's rays, are an enormous supply of heat, liberated for our benefit as the invisible vapor of water assumes the form of cloud and rain.

On Mars the summer and winter of the northern and southern hemispheres are not equal, owing to the eccentricity of his orbit, and like the earth the axis of Mars is so situated that summer in the northern hemisphere occurs when at the greatest distance from the sun ; but the effects resulting from this are more striking than with us, for Mars' sun gives half as much light and heat again in perihelion as in aphelion, hence summer in Mars's northern hemisphere is much cooler, and winter much warmer than with us. And the contrast between summer and winter in the southern hemisphere is more striking still. Now, if there are living creatures on Mars, the existence of such clouds as have been mentioned would be more necessary to them than would our clouds to us.

The vaporous envelope which covers Mars has been shown by the spectroscope to be aqueous, therefore we must believe in the existence of oceans there. The water in the air must be raised from seas and rivers upon the planet, and this proves that the white spots indicate the presence of ice fields around the poles. The clouds have been repeatedly seen to disappear, and we may well believe they are often dissipated in rain. The passage of clouds from place to place indicates aerial currents, hence Mars has winds. The existence of continents proves the action of volcanic forces—there must be volcanic eruptious modeling and re-modeling his crust. There must be rivers by which the water from the rain-falls can find its way back to the seas. There must be mountains and valleys. This much science and the calm reasoning of Proctor teaches us.

At present, however, the great interest is centered in Mars' satellites. To the powerful telescope of the Naval Observa-

tory at Washington, the present proximity of Mars, and the skillful labors of Professor Hall, are we indebted for the knowledge that the poet was wrong who sang of the snowy poles of moonless Mars.

The outer satellite is about twelve thousand miles from the surface of Mars, and is supposed by competent authority to be about eleven miles in diameter. The inner one is about thirty-five hundred miles from the surface of Mars, and about fifteen miles in diameter. The outer one revolves around Mars from west to east once in about 30h. 18m., and the inner one in the same direction in about 7h. 40m. Here is presented a phenomenon hitherto unknown in the solar system.¹¹ Mars himself revolves on his axis from west to east in about twenty-four and one-half hours; hence the outer satellite would, like our moon, rise in the east, while the inner one would rise in the west !

By reflecting on the direction and rate of the motion of the satellites and Mars himself, it will be seen that in one hour of time a point on the surface of Mars would pass over about $14^{\circ} 42'$ of arc from west to east. The outer satellite in the same time and in the same direction would pass over $11^{\circ} 53'$ of arc, while the inner one with its far greater speed would pass over about 47° of arc. No other satellite is known to travel in its orbit faster than its primary revolves on its axis. The result would be then that the outer one traveling in its own orbit slower than Mars revolves on its axis would rise in the east, but the inner one would run ahead of Mars and rise in the west.

Now, supposing that both moons were to rise at the same time, the outer one in the east and the inner one in the west, in one hour's time Mars gaining on the outer one at the rate of $2^{\circ} 49'$ in arc, and the inner one gaining on Mars at the rate of $32^{\circ} 18'$, at the end of four hours from moonrise the outer one would be $11^{\circ} 16'$

above the eastern horizon, while the inner one would have passed over $129^{\circ} 4'$ in arc from the western horizon, and thus be $50^{\circ} 56'$ above the eastern horizon. We might at first conclude that the inhabitants of Mars, if such there be, would witness the extraordinary sight of two brilliant moons passing each other in the heavens above them; but a little further reflection will show that to all intents and purposes Mars has but one practical moon, and that as far as light reflecting is concerned the outer one is a most useless attendant. The inner moon being fifteen miles in diameter and 3500 miles away, would from the surface of Mars subtend an arc of $25'$, which would give it an apparent size of about three-quarters of our moon.

Now the outer one being but eleven miles in diameter and 12,000 miles away would subtend but about $3'$ of arc; and as the naked eye, that is, the human eye of this earth, can but barely see a celestial object which subtends $1'$ of arc, it follows that to the inhabitants of Mars their outer satellite would appear to be a little larger than Mars does to us. We may therefore conclude that for the people of Mars there is but one practical moon, and that that one rises in the west.

Again, supposing that this inner moon should rise on a certain evening at 6 o'clock, it would set in the east at 11h. 34m., and rise again in the west at 5h. 9m. the following morning—set again at 10h. 43m. in the forenoon, to rise once more at 4h. 18m. in the afternoon, and so on. Thus to the men of Mars the moon rises twice in the same night.

Let us see how his moonlight nights would compare with ours. Supposing his moons and ours to rise at 6 o'clock in the evening. At 6 o'clock the next morning we would have had nearly twelve hours with our moon above the horizon, while the Martians would have had light from theirs but 5h. 25m.—that is, counting from

6 o'clock in the evening to 6 o'clock the next morning. But on the other hand, the Martians have their moon every night, which is a boast we on earth cannot make.

There is still another interesting phase of Mars' moon. Speeding through its orbit in 7h. 40m., each quarter will consist of but 1h. 55m.; thus, as in the former case, supposing it to rise at 6 o'clock in the evening and at that instant of time to be full moon, at 7h. 55m. it will have reached its last quarter, at 9h. 50m. it will be new moon, and at 11h. 45m., eleven minutes after setting, it would reach the second quarter. Thus in one night the Martians will see their moon passing through all the phases, which with us and our moon requires more than 27 days.—*Scribner for December.*

NOTE.—The figures here given indicating the speed and distance of the moons of Mars are not claimed to be exact, for the elements from which they are derived are not as yet absolutely determined, astronomers still differing on that point. Still the error would not be sufficiently large to affect materially the facts given above.

AUSTRALIA has 1,037 schools for technical instruction, 4,296 teachers, and 67,713 pupils, besides schools of forestry, mining, and agriculture. Bavaria has 1671 industrial schools for girls, with 1837 teachers and 71,635 pupils, a polytechnic school at Munich, 36 technological schools, and 4 of agriculture. In Germany there are 34 schools of architecture, 25 of mining, 17 of forestry, 108 of commerce, 146 of agriculture, 10 veterinary, and 86 other technical schools. Denmark has 49 "Farmers' High Schools," with 3,135 students, of whom 1003 are females. In Holland there are 11 navigation schools and 32 industrial and drawing schools. In Switzerland 4,373 females are employed in schools teaching needle-work.—*The Independent.*

The National Spelling Reform Association will meet in St. Louis in January next.

EDITORIAL DEPARTMENT.

State Text-book Uniformity.

On the question of State Uniformity of text-books there are two distinct parties in this community, representing interests diametrically opposite. On one side we find the teachers, the parents, and the children; on the other, a half dozen book agents.

Legislators must choose between the two; the issue is fair and square. Shall our law-makers subserve the interests of the taxpayers of California, or of a few Eastern book dealers?

For the special benefit of legislators, we will offer a few suggestions for their thoughtful consideration. And we premise that these remarks have the more weight, inasmuch as they are not actuated by any connection or consultation with publishers, but by an intimate knowledge of the needs of the schools, and of the wishes of the people.

Text-book uniformity means:

1st. Monopoly in its worst form.
2d. Disregard of the laws of trade, and the crushing of that legitimate competition so essential to commercial prosperity.

3d. Greater expense to the parent—for, as a very ordinary intellect may readily comprehend, what is cheapest to-day may be comparatively dear a week hence. In California, particularly, with a standard of value different from the country at large, contracts made at one time have quite another aspect a year or so thereafter.

4th. It means putting a fixed price on merchandise subject to the usual mutations of trade.

5th. It makes the State the endorsers of private enterprise, practically insuring a

publisher against loss on books the State adopts.

6th. It means opposition to the material advancement of our own State, inasmuch as the same principles applied to other branches of industry would retard the whole manufacturing interests of this coast.

There are no inducements under the cast-iron uniformity system for educators to investigate the principles of teaching, and to invent new and more logical methods of instruction.

The State by adopting a uniformity law practically paralyzes the author, by preventing the growth of that industry by means of which alone he may benefit his kind.

It is the duty of the State, by every proper means, to foster all legitimate industries within its bounds.

In a new and growing community this obligation is especially powerful.

As another reason why our legislators should heed this argument, we will indicate who they are that favor uniformity, and who oppose, and why.

For uniformity, are the great majority of the Eastern book trade. Why? Because it affords a certain market, uniform prices, and absence of formidable competition.

On the other hand, the representative teachers of the coast are opposed to uniformity. They find by experience that it gives a poorer class of books. Parents are opposing it because they find, despite the plausible representations of the book agents, that it costs them more.

For these reasons do we advocate legislative action, that they will change, or radically modify, the cast-iron system of uniformity to which California still clings.

On the School Bills before the Legislature.

The passage, in its present form, of any of the school bills now before the Legislature would prove highly injurious to the educational interests of our State, and would reflect no credit on the intelligence of our legislators.

Some of the bills, it is true, have good features: notably those of Mr. Lewis in the Senate and of Mr. Coffey and Mr. Johnson in the Assembly.

Our space will permit but the briefest analyses of each of the measures proposed for the benefit of our common schools; but we believe our readers will agree with us that there is nothing they need, at present, as much as *peace*.

Senator Lewis's bill is just and reasonable in principle, but defective in application. Because the State Board of Education, or rather one of its executive members, made a mistake two years ago, which vitiated a contract made by them, we see no reason for organizing a Commission to carry out any educational measure which is in the legitimate province of the State Board.

The tendency of Mr. Lewis's bill would be to keep up the present pernicious system of legislative interference in text-book adoption, which has cost the State for two years past many thousands of dollars, and impaired the efficiency of our schools. A proper amendment to this bill would be to remand the whole subject matter to the State Board of Education.

Mr. Coffey's Assembly bill is excellent in theory, but the details are too cumbersome to make the law practicable and of benefit. One very defective feature in this bill is that all change is postponed until July, 1879. This is a serious fault, for the necessity for immediate change is imperative.

Mr. Johnson's bill, the text of which has not yet reached us, provides that the Coun-

ty Assessors shall take the annual census, instead of the census marshals in each district; and that the State shall furnish free text-books to all pupils in the common schools.

One general suggestion will apply to both the bill of Mr. Barstow and that of Mr. Tuttle. They should be entitled "An Act to curtail the usefulness of our Common Schools, and to restore us the schools of our grandfathers."

The first section of Mr. Barstow's bill is reasonable enough; it is precisely what educators have desired for years. But the State Board of Education can reach the matter more effectually by simply revising the course of study. No legislation is needed here, and Mr. Barstow's method of meeting an obvious want is certainly neither direct nor likely to prove efficient.

Only a practical teacher can realize the full absurdity of Sec. 20 of Mr. Barstow's bill. Yet a person of ordinary common sense, much more a full-fledged legislator, might see the impossibility of teaching reading to children of every age and degree of previous culture from a single book. The spelling book prescribed by Mr. Barstow has, as he is probably aware, no existence, so his bill adopts one already known. And following the practice of those enthusiastic Kentuckians who still vote for Andrew Jackson, he dictates that we shall use the, to him, immortal speller of Noah Webster. And so on through a mass of verbiage, that is not drawn with sufficient legal acumen to stand the scrutiny of an opposing counsel.

The bill of Mr. Tuttle is the companion piece to that of Mr. Barstow. It is entitled to be called an educational bill for pretty much the same reason that Goat Island has been so designated—because there are no goats there.

Mr. Tuttle first provides a special Commission—the State Board of Education,

an assemblage of cultured gentlemen, trained as educators, and thoroughly conversant with the books, and the methods, and the needs of our common schools, will not suffice.

This Commission is within one year to ascertain the cost of publishing a series of text-books which Mr. Tuttle most sapiently prescribes, and of which he indicates the contents. With the full data which Mr. Tuttle so obligingly furnishes, any good printer will give the cost in a month. But does Mr. Tuttle seriously believe that even moderately good text-books can be prepared with the same facility as some of his school bills? If so, he is decidedly mistaken. Books are not made in that way, and there are too many publications of the highest merit, and applicable to our advanced state of civilization, for an intelligent people to regard with favor those rude and primitive caricatures which he proposes to put into the hands of our children.

Another objection to the bill is, that the State has other duties to perform than to enter into competition with private enterprise in the publication of school books. We think it would be rather a transcendence of her functions.

Mr. Tuttle himself seems to think that this portion of his bill may not be feasible, for as may be seen from Section E, *et seq.*, he provides that his Commission may advertise and make contracts with publishers to supply their books at the lowest market prices.

As a closing suggestion to Mr. Tuttle, we would request him to place this whole text-book matter where it was two and one-half years ago, and then let it alone.

We thank our friends of Tehama County for their cordial endorsement of the JOURNAL. Their kindness is so much the more appreciated, as we were not present to solicit or prompt their action.

The Co-education Question.

This is still an open question. Much has been said, and seemingly strong arguments have been given on both sides. The objection that has always been most prominent and boastingly held out as insuperable, is: It is the hot-house that stimulates the buds of the sexual instincts, and forces them into premature development if dormant, or advances them in all cases, at a period when they should be restrained; further, it opens the doors to too close communion, to unrestrained intimacy, favors it, begets it in most cases, in fact; and then comes excess, which follows naturally from allowed indulgence, and cannot be controlled. This is the Giant Despair in this problem. Another objection is: The female mind is not adapted to cope with the male intellect, therefore, it should have its own curriculum, its own arena, its own peculiar training, apart from males. As the female person should have its peculiar clothing, labor, recreations, etc., because it is female, and a woman violating custom in regard to these is held to unsex herself, so the mind, differing by nature as does the body, requires and demands different treatment and training. These two views may be taken as the chief objections, though there are others of less weight.

With regard to the first, we are willing to admit that it has much force. It is not imaginary, quite; it is not a wooden gun. It has real difficulties. But we believe something lies behind it, covered by the special pleading, which generally is the *real* argument. In training the sexes together we meet a great trial—a tough problem, an every-day watch and conflict, and it is too much for us, and we conveniently dodge it by cutting the knot with a sword. We rid ourselves of the problem by separation of the elements. We shut one-half of the trouble out of our sight

by a shifting of scene, just as religious devotees, finding the world, the flesh, and the devil too much for their human nature, shut themselves out of sight and hearing of temptations, instead of manfully meeting them and fighting a good square fight like Paul. We admit our weakness in the conflict when we make a scape-goat of the *immoral tendency*, and pile everything onto it. We say again, we acknowledge that it is a difficult task, but we also say: Should we refuse to meet it like Christian men and women, *because* it is *such?* It is much easier to most parents to rear a family of girls alone than of boys and girls together; but who, except a weak one, prays to be delivered from the trial. So it is easier to shut yourself out of society, and live a recluse or a hermit to avoid temptation and all the evils of great cities, but it is not brave—it is cowardly. It is easier for most persons to teach a school of girls or of boys separate than when united, and in our humble opinion this is the principal reason of the separation.

As to the second objection, we think it has been pretty well shown that the female mind is equal to nearly all studies of the common college, and even the universities. Examples are coming up in every graduating class of these institutions, and in Special and Art schools to prove it. Give females the *time* in which the male intellect has monopolized all the higher departments, and they will prove it. It could be easily shown, if there were time, that separating the sexes does not cure the great bugbear, scandal, in a large school. We do not know of any school in which the sexes are together—and there are many—that has been forced to close on that account, or has even had any serious scandal connected with it. Schools composed of girls exclusively have had quite as much trouble as have the mixed schools.

The trouble lies in the management. If we could always have the wisest, most

prudent, most noble men and women at the head of our schools, there would be no trouble about the sexes being together. But, as in families, many fail to produce such men and women of their children as they would like to see, because they do not know how to do it, or are totally unfitted by nature and education to do it, so in mixed schools, the teacher fails to control and mould character, because of inability. He may do his best, and be held blameless for the failure, for nature did not give him the boon. He fails, and so separates the sexes to help his weakness and allow him to succeed.

The Time to Subscribe.

All subscribers who send in their names prior to February 1st will receive the JOURNAL to March 1st, 1879. Let every Principal induce his assistants to subscribe, and likewise send us the subscription for the district library.

We desire to make the JOURNAL for '78-'79 better even than it has been for the past year; so timely arrangements are being made to improve it in every particular. Our pages are open for suggestions, and all contributions of suitable character will be acceptable.

We have on hand, ready for publication in our next issue, articles by Prof. G. W. Minns, Z. L. Kay, Miss Agnes Manning, C. M. Drake, Prof. G. V. Le Vaux, and others. Our friends need not fear overwhelming us with MSS., however. We want good, practical articles on methods of teaching and cognate subjects. Such articles also which train the mind and culture the taste, we want, for these equally will make us better teachers.

We are indebted to Gen. John Eaton, Bureau of Education, Washington, for the "Special Report to the Honorable the Minister of Education, on the Ontario

Educational Exhibit and the educational features of the International Exhibition at Philadelphia, 1876." By the Deputy Minister, J. George Hodgins, LL.D. This is an exceedingly interesting and able report, copiously illustrated, and clearly showing, among other things, the high character of the Canadian schools, and the liberal care with which they are fostered by the government and people.

THE daily press, notably the *Alta* and *Call*, made a decided mistake a few weeks ago, in editorials complaining of the number of books used in the San Francisco schools. They represent that it is a common sight to witness public school children plodding wearily along to school laden with from six to a dozen ponderous tomes. Whence the *Call* and the *Alta* derive such impressions we know not, but they are laboring under a misapprehension of facts.

So far from this statement being correct, it is true that children in the public schools of San Francisco are required to have fewer books than anywhere else in the Union.

Too many studies are the bane of our schools; of text-books, we certainly have not a plethora.

For the information of the gentlemen of the lay press, we will briefly outline the studies pursued and the books required therefor.

Reading is taught in all the grades, and books are used likewise. Writing is taught, but no books are required in four out of the eight grades. Spelling is also generally taught; no text-book is used. Arithmetic is taught in all eight grades; text-books are used in only the four higher. Grammar is taught in some degree in all eight grades; no text-book whatever is used. Geography takes the same course as grammar—text-books used in but four grades. History, word-analysis, physics, and physiology are to some extent taught

in the four higher grades. For the two former studies a text-book is used in the first and second grades; for the two latter no book whatever is used by the pupils.

The largest number of books are used by first grade pupils. These are an arithmetic, reader, history, geography, and word-analysis. Is this too much, gentlemen of the Press?

Supt. Passmore, of Virginia City, Nevada, has our sincere thanks for an excellent list of subscribers sent us in December. We hope the Superintendent will let us hear from him often. We wish to have Nevada fully identified in the educational work we are doing on this Pacific Slope.

WE see that, by action of the Board of Education, the use of Brown's Grammar has been discontinued in the schools of New York City. This was very properly done here two years ago. We know of no text-book on language so unfit for the purpose designed as Brown's.

THE *National Teachers' Monthly* enters its fourth volume under another and more appropriate name—*Barnes' Educational Monthly*. It is very ably edited, which is a good thing to say of a publication devoted chiefly to advertising the firm whose name it bears.

IT behooves the friends of our public schools to be vigilant and active. Not a single measure yet proposed in the Legislature is calculated to promote their welfare.

A FRIEND suggests that we have a department in the JOURNAL for questions and answers, on the general topics of interest to the teacher. The idea is an excellent one. Go ahead with your questions.

SUPT. CHILDS, of Solano, has been indefatigable, not merely in his duties as Super-

intendent, but as an active friend of the JOURNAL. We thank him heartily for his continued efforts in our behalf.

IN Canada, marriage licenses are taxed, and the proceeds devoted to educational purposes. Eminently proper, and worthy of imitation in California.

GENERAL NOTES.

THE salaries of the Philadelphia teachers have been reduced ten per cent., making a saving of \$126,374 per year.

THE freshman class at the Massachusetts Institute of Technology is larger than it has been for several years, and the total number of students is 267.

WE desire to call attention to the advertisement of Messrs. John Taylor & Co. on the title page of this JOURNAL, whose place of business is at Nos. 542 to 548 Washington street.

THE total of school receipts in Ohio for the last year was \$3,347,298.86. The payments amounted to \$3,270,523.11. Male teachers receive an average salary of \$51 per month : female teachers, \$34.

Will some one who can spare them forward to us the Oct., Nov., Dec. and April numbers of the JOURNAL, particularly October, and oblige. We will return postage.

By all means try and illustrate the lessons, in the several branches pursued, by some *practical* application every day. Measure wood and sell it, and grain and buy it ; make out bills, pass receipts—be *practical*. —*The Practical Teacher.*

PROFESSOR HITCHCOCK, of geological fame, has found at Wethersfield Cove, Conn., four fossil bird-tracks, measuring a foot from heel to toe, and proportionately

wide, which he thinks must have been made by a bird twelve feet high, and must have been made two million years ago.—*N. E. Journal of Education.*

THE *New Education*, a monthly tract devoted to kindergarten education, and published by W. N. Hailman, Milwaukee, closed its first series with the December number. We are pleased to see that the publication will be continued. It is an eminently worthy one, conducted with ability and sincerity in the best interests of a true education.

FROM many countries has come the cry of famine within the past year. And now it is heard in Brazil. In the north-eastern part of that country there has been a prolonged drouth, which has resulted in the failure of the cereal crops, and great suffering has followed. There are reported upward of fifteen thousand distressed persons in the single district of Ceara.

COFFEE, according to the *Lancet*, has been found to be a complete antidote to strychnine, or to diminish materially the violence of its action, varying according to circumstances. Instances are mentioned by Dr. Attilio Lelli as having come under his notice, where strychnine had been administered in strong coffee without fatal consequences.—*Weekly.*

GENERAL LE DUC, United States Commissioner of Agriculture, has been collecting data concerning the cultivation of the tea-plant in this country. He finds that in a strip of country lying in the latitude of the northern part of South Carolina, and running from the Atlantic coast westward to the Mississippi, and also in a certain valley in the southern part of California, the climatic conditions are very favorable ; and the results of the few attempts that have been made in the cultivation of the

tea-plant in these regions have been so encouraging as, he thinks, to remove all doubts as to the success of future efforts to produce it here.—*Harper's Bazar.*

UNTIL recently the benefits of Girard College have been confined to fatherless boys in the city of Philadelphia and in the State of Pennsylvania, those from the city having the preference. But lately the college buildings have been enlarged, and the number of pupils will be increased from 550 to 870, and fatherless children from New York city will be received. Only those boys are admitted who are without a living father, and who are destitute of any means of support, and who are healthy. From the terms of Girard's will, no clergyman was to be allowed even to enter the grounds. Consequently it has been generally supposed that no Christian instruction was given in the college. But such is not the case. The Bible is read and prayers offered at the daily chapel service, and there are special services on Sunday. But none of the religious teachings have any touch of sectarianism. The new Gothic chapel recently erected will seat about two thousand persons, which is the number that can be accommodated when the entire inclosure of forty acres of land is fully utilized.—*Harper's Bazar.*

PROF. G. W. MINNS sends us the following interesting notes :

"The Secretary and agents of the Massachusetts Board of Education have been holding Institutes in different parts of the State. The results are very gratifying. Eighteen hundred and sixty-three teachers have attended the Institute, besides a large number of school committee-men and citizens. The teachers represented one hundred and eighty-one towns of the Commonwealth. The exercises, both during the day and evening sessions, all had a direct reference to the every-day work of

the teacher. Judging from the great interest manifested by those who have attended the Institutes this fall, there is a revival in progress in educational affairs. This may be inferred from the large numbers attending, and from the great zeal manifested in the study of improved methods of teaching."

"Sir Charles Reed, President of the Board of Education of the city of London and late chairman of the judges upon education at the Philadelphia Exposition, assigns the public school system of Boston the second place. He says: 'No single city was superior to Cleveland, closely followed (in alphabetical order) by Boston, Chicago, Cincinnati, Manchester, N. H., New Haven, and St. Louis.' Bonamy Price, the celebrated English politico-economist, two years before expressed the same high opinion of Cleveland schools. San Francisco did not compete, neither did Philadelphia, at least formally, as her schools could all be examined on the spot; and the result appears to be that nothing was said of them."

It is creditable neither to the common schools nor to the intelligence of this country, that fifty per cent. of the candidates for admission to the Military Academy, and fifty-eight per cent. of those at the Naval School at Annapolis, are rejected for incompetency, when it is known that the requirements are only of the most elementary sort. It is demanded only that young men should be "well versed in arithmetic, reading, and writing, including orthography, and have a knowledge of the elements of English grammar, of descriptive geography, especially of their own country, and of the history of the United States." Were these subjects intelligently handled by skillful teachers in our common schools, a knowledge of them would be built up in the mind, and hence would have a real existence there, so that when de-

manded it would appear. But mechanically taught, impressed through language but half apprehended, and crammed into minds that become mere passive recipients, they lie there undigested and unassimilated, soon to fade from consciousness like a fitful dream of the past. The ground-work of education being thus superficially laid, the early habits and associations being of the most crude and mechanical sort, there can be but little hope for the future. It has been truly affirmed that what is required for admission to West Point is what every American citizen ought to have, and precisely what our common schools ought to teach. These facts carry their own commentary on their face. They should arrest the attention of every thoughtful man in the nation, and lead to those comprehensive measures of reform so clearly demanded by the needs of the country.—*Editorial in the Practical Teacher.*

NOTES FOR EVERY-DAY USE.

In reference to the expression "had rather," a correspondent of the *N. E. Journal of Education* has this to say :

The case lies in a nutshell. In the first place, "had better," "had rather," "had as lief," etc., are the old English forms, and the *only* old English forms. If they cannot be "parsed," so much the worse for the grammars, whose business it is to explain forms established by good usage, *not* to substitute new forms more easily explained by the "rules."

In the second place, "would rather," "would better," etc., are awkward neologisms, invented by grammarians within the last century or so. I have not been able to find an example of them in any but recent writers. If their advocates can show an example of a date previous to the year 1750, I should much like to have them do it.

If one must have good grammatical authority for "had rather," etc., let him go to Matzner, than whom (another idiom that cannot be "parsed") there is no better. In his third volume, p. 7, (English edition) he says :

"Have takes in many relations the pure infinitive. a. This happens if have is accompanied by *good, better, best, lief, (lieve)* rather, and has a notion of an activity as an objective determination," etc.

Plenty of examples are given from standard writers, early and recent; as from Goldsmith : "You had as good make a point of first giving away yourself"; Marlow : "You had better

leave your folly"; Bulwer : "We had best return"; Shakespeare : "I had as lief be none as one"; Sheridan : "I had just as lieve be shot"; Milton : "Most through sloth had rather serve"; Cowper : "I had much rather be myself the slave"; etc., etc.

Will some teacher please answer the following :

1. At what distance above the earth's surface would a person have to be, to see one-fourth of its surface?
 2. Is an educated man always free?
 3. Parse : "He that hath ears to hear, let him hear."
 4. Is the quantity of matter now composing the earth the same as when the earth was created? If so, how shall we account for our fossil forests, or coal mines?
 5. Have persons control over their thoughts?
 6. How long is the electric spark supposed to last?
 7. Which is the correct form of expression : "Up to the present time," or "Down to the present time"?
 8. In decomposing water, by means of metallic potassium, which burns, the oxygen or the hydrogen?
 9. What is the difference between *combination* and *collection*?
 10. When is the specific gravity of milk greatest, when fresh or skimmed?
 11. Matter is said to be anything of which we are cognizant by our senses. We can feel heat, or hear sounds : is either of these matter?
 12. What is the difference between knowledge and wisdom?
 13. Which is correct, "Two pairs of gloves," or "Two pair of gloves"?
 14. What kinds of songs are most appropriate for the school-room?
 15. Will a ball thrown horizontally reach the earth as soon as if dropped?
 16. What do we mean by the word "sky."
 17. Why has a piece of petrified wood greater weight than before petrification?
 18. Two ships are 100 yards apart, and moving with cannon-ball speed ; will a cannon-ball shot from the hinder ship overtake the former?
 19. Who was Blackstone, and in what year was he born?
 20. What causes wood to petrify?
 21. If salt melts ice, why, in making ice-cream, do we put salt in the ice?
- The following from the *Practical Teacher*, under the head of "Questions Suggested by a Visiting Tour," are useful hints for every-day use :
1. Should the teacher talk very loud?
 2. Should a pupil be deprived of a whole recess for a minor offense?
 3. Should we keep pupils after school to learn lessons, etc.?
 4. How may we best secure good order in going down stairs?
 5. How many pupils should be in charge of one teacher, particularly in the primary department?

6. Why not keep the same teacher in the same school, promoting him as you do the pupils, that he may be with the class until they leave school?

7. Is it well to have a Roll of Dishonor?

8. Is a very slow movement, in order to secure quiet, to be recommended?

9. Should the principal of a school teach regularly in lower departments?

10. Should pupils act as teachers?

11. Is not a two-hour session without a recess too long?

12. Why do we find so much school apparatus out of order, and yet not very old?

13. Why are school libraries so much neglected—even those books on hand not used?

14. Is a *teacher* justified in saying that she does not wish to subscribe for an educational paper because she has no time to devote to such reading?

15. Does a teacher derive as much good from a paper which two or more teachers have paid for, which all expect to read?

SCHOOL BILLS BEFORE THE LEGISLATURE.

We give below, brief but exact abstracts of the bills introduced in either house of the Legislature on our free school organization, government and text-books.

First we have Assembly Bill No. 21, introduced by Mr. Tuttle, of Sonoma. It is entitled

AN ACT

To prescribe the manner of furnishing text-books for the public schools of this State.

Section 1 provides for a Board of Commissioners, consisting of the Governor, the Superintendent of Public Instruction, and one person appointed by the Governor, to provide suitable text-books.

Section 2 provides that this Board shall examine into the expenses of printing and furnishing suitable books for use in the public schools, and if such books can be published by the State and furnished at a price sufficient to cover the cost of publication, but lower than other equally suitable books, then this Board shall advertise for proposals to furnish the State with the MS. copyright of a complete series of text-books, to wit:

1st.—A series of geographies, in two books.

2d.—A series of readers, of not more than five books.

3d.—A course of arithmetic, in two books.

4th.—A complete algebra, in one book.

5th.—“An English grammar, which shall contain a thorough treatise upon orthography, etymology, syntax and analysis.”

6th.—A speller, in one volume.

7th.—A history of the United States.

8th.—Such books as are required for instruction in the physical and natural sciences; *provided*, that in each branch the treatise shall be complete in one volume, with suitable illustrations.

Section 3 provides for the manner in which proposals for furnishing MSS. shall be made.

Section 4 provides that the State shall furnish the text-books at cost, but that retail dealers shall be allowed some margin for profit.

Section 5 provides that the text-books thus furnished shall be continued in use for fifteen years, but that the text of the same may, at the option of the Board, be revised once in five years.

Section 6 provides that the books in use in 1870 (those now used) shall continue in use until the provisions of this act are carried out.

Section 7 provides that all accepted MSS. shall be paid for by receipts arising from sales of text-books.

Section 8 provides that if, in the judgment of the Board, all the above sections are, on account of expense, inexpedient, then the Board shall contract for a similar series to be furnished by private enterprise.

Section 9 provides for the manner in which the contract for such books shall be let. The Board, however, buys the books and retails them throughout the State.

Section 10 provides that all expenses incurred under this law shall be added to cost of the books.

Section 11 provides that for the safe keeping of the books purchased by the State, and for an accurate record of all sales of text-books and receipts therefor, the State Superintendent of Printing is made the custodian.

Section 12 provides that the State Board of Examiners shall allow the appointee of the Governor, on the Board of Commissioners, a suitable compensation.

Section 13 provides that this act shall take effect from and after its passage.

Assembly Bill No. 19, introduced by Mr. Coffey of San Francisco, is entitled,

AN ACT

To provide for the adoption of text-books for use in the public schools.

Section 1 provides that for the purpose of having a county uniformity of text-books, and of securing the competition of all the publishers in the United States, a meeting of the Presidents of Boards of Education of cities or towns, and the Clerks of Boards of Trustees of all the districts in each county, (except San Francisco, which is provided for by section 2 of this act) shall be held at the county seat of the various counties, on the first Tuesday in July, 1879, and every six years thereafter, for the purpose of securing text-books to be used by the schools in the various branches taught therein. Such books shall be selected by a majority of those present, and the Secretary of the Convention shall forward a list of the books adopted to the County Superintendent, who shall furnish a copy to the clerks of the various districts, who shall record the same, and shall make the books used in the school conform to this list as speedily as possible. No change from this list can be made within six years.

Section 2 provides that the Governor shall appoint for San Francisco five citizens to act in conjunction with the Board of Education, to adopt text-books in the same manner as prescribed in Section 1.

Section 3 provides for the giving of proper notice by Superintendents to Presidents of Boards of Education and Clerks of Boards of Trustees, for the meeting to adopt text-books. It also provides for the keeping of an accurate record of proceedings, and for giving them due publicity.

Section 4 provides for a contract with the publishers of the adopted books.

Section 5 provides for a penalty of fifty per cent. of the State School, to be withheld from every district, city or town which refuses or neglects to comply with this law.

Section 6 repeals all acts in conflict with this.

Assembly Bill No. 23, introduced by Mr. Barstow of San Francisco, provides:

Section 1. That reading, spelling, writing, arithmetic, grammar and geography are to be the studies in all the common schools of California. They are to take precedence of all other studies, and no pupil shall study any other until such pupil shall be

thoroughly proficient in these. Nor shall any pupil be allowed to take more than two other studies contemporaneously with reading, writing and spelling.

Section 2 provides that only one book shall be used by the pupils in each of the above studies, except in reading and spelling, where two books are to be used to the two studies.

Section 3. Only one book shall be used by the pupil in any one of the studies enumerated in the preceding section, except reading and spelling, and for these two books shall be used for the two studies, a Reader and a spelling book, either or both being used for either study, or both, as the case may be; but no volume containing several books, parts or studies shall be used in said schools for the purpose of evading the provisions of this Act, nor shall the name of any school be changed for the purpose of such evasion. The spelling book shall consist of not more than 200 pages, and shall contain the English alphabet, both in capital and small letters, a well arranged collection of syllables and words for spelling, the abbreviations in common use, a table of Roman and a table of Arabic figures, a brief and comprehensive system of punctuation, rules for the use of capital letters, and easy lessons in reading, adapted to the younger pupils. The writing book shall consist of not more than 36 pages, and shall contain all the capital and small letters of the English alphabet, all in plain form, all of the same kind or class, as to the form of letters and as to the strokes or shading; also, the Arabic and Roman numerals, and copies appropriately arranged with a view to teach the pupil a plain system of penmanship, adapted to the uses of ordinary business, recording and correspondence. The style of reading matter, in all the books to be used in said schools, shall be characterized by simplicity, force and beauty. They shall be printed with a fair type, of such size as not necessarily to produce injury to the eyes; provided, however, that, as many pupils are already provided with the books now in use in said schools, and as others of suitable quality may not at once be found to take the place of them, except at great expense, therefore a portion of the books now in use in said

schools, and in the hands of pupils, may be continued in use by such pupils, when desired by parents or guardians, until a complete change shall have been effected in school books, which complete change shall be effected on or before the 10th day of July, 1879, after which time there shall be complete uniformity in the text-books used in all said schools. The practice of grading in said schools shall be so modified, if necessary, as to admit of the continued use of books now in the hands of pupils, as aforesaid; but it is expressly provided that only one book shall be used by the pupil in said schools, in any one of the studies enumerated in this Act, (except foreign languages, as hereinbefore mentioned, and except reading and spelling, as aforesaid) as well as in any and all other studies, not herein enumerated, which may at any time be pursued in said schools, excepting foreign languages; and provided further, that, as there is no spelling book whatever prescribed and now in use in said schools, that known as Webster's Spelling Book shall, on or before the 10th day of July, 1878, be introduced into said schools by the State Board of Education, and used in said schools, unless, in the opinion of said Board, a better spelling book than Webster's can be obtained at the same or a less price than Webster's can be obtained for; in which case such better book shall, in like manner, be introduced into and used in said schools. No book to be used in said schools (except in the case of some book or books already in use, as aforesaid, and except also the writing book and all books used in the study of foreign languages) shall contain more than four hundred pages, nor shall it be larger than the duodecimo size. Immediately after the passage of this Act, said Board shall proceed, gradually, and with the least possible expense to parents and guardians, to make, from time to time, the needful arrangements for effecting and to effect, by degrees, and on or before the 10th day of July, 1879, shall fully effect and complete the change in school books contemplated and called for by the provisions of this Act, and according to the true intent and meaning thereof. No book not now in use in said schools shall be introduced into or used in any of them until it shall first have been approved by said Board. All High Schools and Normal

Schools, as at present organized and conducted, and also the department or study of foreign languages in Cosmopolitan Schools, are exempt from the operation of this Act. No map, set of maps, or atlas accompanying a geography, and containing, in the opinion of the Board, no more than the necessary references and explanations, shall be deemed a book within the meaning of this Act. Should any foreign language be taught in any of said schools, such school shall thenceforth be known and designated a Cosmopolitan School; and such foreign language or languages shall be known as a study or department in such school. Any person violating any of the provisions of this Act, willfully, is guilty of a misdemeanor.

Section 3: This Act shall take effect immediately, and all Acts and parts of Acts in conflict with the provisions of this Act are hereby repealed.

Senate Bill No. 51, introduced by Senator Lewis, is entitled,

AN ACT

To foster home industries, and to maintain the good faith of the State, by re-establishing the contract heretofore entered into by and between A. L. Bancroft & Co. and the State Board of Education of California.

The preamble recites that the State Board of Education, in 1875, adopted the Pacific Coast series of Readers, and that said action of the State Board was set aside by the Courts, not by any default of A. L. Bancroft & Co., but solely on account of the technical ground of omission of legal notice; and whereas, A. L. Bancroft & Co. had, in pursuance of their contract with the State Board, expended large sums of money in order to manufacture said Readers; and whereas the McGuffey Readers have now been used seven years in our schools, and teachers generally agree that the Pacific Coast Series are better adapted to the wants of our scholars, therefore

Section I provides that the Governor, Secretary of State, and State Superintendent of Public Instruction, are constituted a commission to enter into a contract with A. L. Bancroft & Co. for four years, to supply the schools of California with the Pacific Coast Series of Readers; and any city, town or district refusing or neglecting to use such books will lose 25 per cent. of the State Fund.

Section 2 provides that this Commission shall meet within thirty days after the bill becomes a law, and carry out its provisions.

Section 3 provides the price of the Pacific Coast Series, and the terms of introduction.

Section 4 provides that the contract provided for in this act shall run four years from a period six months after the date of its execution, and until otherwise ordered by the Legislature.

Section 5 requires a bond of twenty-five thousand dollars from A. L. Bancroft & Co.

Section 6 repeals all acts in conflict with this.

Section 7 provides that this act shall take effect immediately.

THE AUTUMN INSTITUTES.

SAN DIEGO COUNTY.

The Institute held under the management of County Superintendent F. N. Pauly, in November, was the largest and most successful ever held in this county.

The first exercise was an interesting exposition of the Grube method of teaching arithmetic to primary classes, by Miss Webb and her infant class. Dr. Carr gave a lecture on simple experiments in natural philosophy, accompanied by a variety of practical illustrations. D. M. Meeker read an essay on "Common Schools a Political Necessity." J. B. Dubois read an essay on "Reading," followed by an informal lecture on the same subject by Prof. Allen, and a general discussion on that topic by the teachers. A serio-comic essay, entitled "Our Metric System," was read by C. M. Drake, when Prof. Allen gave illustrations on the blackboard of the essential steps necessary to a correct understanding of the fundamental rules of arithmetic. Prof. Allen likewise spoke on the subjects of Geography, Drawing, "The Logic of Arithmetic," etc., in his usual interesting and instructive manner. Dr. E. S. Carr, also, lectured before the teachers and the citizens of San Diego on "Common Sense in Common Schools," "How to Improve Our Common Schools," and "Hygiene in Schools."

"Teachers' Obstacles, and Some of the Best ways to Overcome Them," was the title of an essay read by Z. L. Kay. It was an earnest, well-written production, replete with sound maxims and hints at correctionary movements. In our next number this essay will be published.

Mrs. Helen A. Bush followed with an essay on

"The Newest Topic Out," which proved to be on Education. This lady handled her subject well, and elicited considerable applause by her remarks.

"The Aims and Ends of Education" was the title of the next essay, read by J. F. Halloran, in which the writer, starting with the premise that, "The child is God's problem, awaiting man's solution," argued in favor of less cramming and more self-reliance and originality.

Prof. Blackmer gave a half-hour lecture on "Music in the Public Schools," which was listened to with great attention. Mrs. Bevington read a fine essay entitled, "Even unto the Least of These."

The proceedings of the Institute were enlivened by some excellent music—vocal and instrumental, by Mrs. Pauly, Prof. Blackmer, Capt. A. S. Grant, Mrs. Bennett, and the San Diego Philharmonic Society; and by an excellent critic's report by C. M. Drake.

The usual resolutions were passed, after which the Institute adjourned.

SAN BERNARDINO COUNTY.

The Institute was called to order by County Supt. Chas. R. Paine, who stated the object of the meeting in a few appropriate remarks. Upon motion, Miss Emma Whittier was elected Vice-President, and T. J. Wilson, Secretary.

Mrs. Dr. Carr took a prominent part in the proceedings of the Institute, addressing the teachers, among other things, on the subject of "Industrial Education." The other addresses of note were by Mr. Charles Sujan, on "The Ready Perception of Numbers"; by Prof. Wm. Smith on "Ready Reckoning and Mental Arithmetic"; "The Metric System," by Miss M. H. Bennett; "Spelling," by Prof. J. N. Hewes; "Book-keeping," by T. J. Wilson; "English Composition," by Miss Edith Martin, and an able essay on "Natural History," by Prof. G. R. Paine.

Some of the resolutions passed at this Institute are so much out of the beaten track that we subjoin them:

Resolved, That if a teacher be compelled to attend Teachers' Institutes, he is entitled to pay for his time; but if it is left optional with him, he should attend—if at all—a his own expense.

Resolved, That in the opinion of this Institute no teacher, while following the profession of teaching, should ever be required to submit to a second examination, except for a certificate of higher grade.

Resolved, That this Institute indorses the legal provisions made by this State for County Insti-

tutes, but believes their efficiency might be greatly promoted should they receive more instruction from distinguished educators.

Resolved, That this Institute memorialize the coming Legislature to repeal the law in regard to school text-books, passed at the last session of that body, and thereby restore the former power of the State Board of Education in regard to text-books.

Resolved, that the State Board of Education be requested to adopt the Pacific Coast Readers for use in our public schools.

FRESNO COUNTY.

This county, though small in the number of its school districts, is taking a leading rank educationally, under the wise and capable management of Supt. R. H. Bramlet. The session of the County Institute, held at Fresno City about December 1st, was characterized by more than the ordinary good feeling between Superintendent and teachers, and considerable enthusiasm.

Supt. Bramlet opened the Institute by a short and cheerily worded speech of welcome to all present. W. L. Smith was elected Vice-President, and A. H. Day and Miss Nettie Myers Secretaries. "How to teach History most profitably," was taken up and animatedly discussed, Prof. Sanders and B. A. Hawkins taking the leading parts.

A most interesting essay, entitled "Public School Teaching, considered with reference to its effect on School Teachers," was next read by Mr. McClelland, of Millard district.

Prof. Greenup spoke briefly and to the point on School Government, and on the best methods of securing and maintaining thorough discipline. W. A. Sanders delivered an excellent address on the subject of reading and its various instrumentalities in the school-room.

Interest was added to the exercises by vocal and instrumental music, by Mrs. Phillips, Miss Dora Munn, and W. W. Poole.

The most notable resolutions passed were :

1st. That believing the text-books on English Grammar in use in our schools to be impractical and inconsistent with the present methods of instruction, we do heartily recommend a change.

2d. That we deem a change of Readers necessary, and further, that we recommend the Pacific Coast Readers, or others of equal merits.

3d. That we petition our Legislature to empower the State Board of Education to make the desired changes, and all others in regard to text-books.

4th. That we thoroughly appreciate the labors of our County Superintendent in connection with our schools, and his sympathy with the teachers.

This is the time to subscribe.

Educational Intelligence

FROM

STATES AND COUNTIES.

SAN FRANCISCO COUNTY.

The new Board of Education organized December 4th, by the election of A. C. Heister as President.

By the adoption of a new set of rules, an important committee, entitled "The Committee on Credentials and Qualifications of Teachers," was organized. This Committee examines into the merits and qualifications of all applicants for positions, and makes recommendations of those most fit.

At the meeting of the Board held December 12th, Ex-Supt. Bolander was removed from the Principalship of the Bush Street Grammar school. That school was then remanded to its original status as a primary school; and Mrs. Plunkett re-elected to the Principalship. The new Turk Street school was placed under the Principalship of Mrs. Georgia Washburne.

Dr. O'Neil offered a resolution, which was adopted, that some school bill should be prepared and passed by the Legislature, that will decrease the number of studies in the schools.

Among the promotions made in December was that of Miss Jennie Forbes, from a fourth to a third grade class in the Lincoln school, and Miss Rightmire to a second grade class in the same school.

F. A. Blackburn, a graduate of the University of Michigan, was elected Professor of Latin and Greek in the Boys' High School, *vice* Supt. A. L. Mann.

A Latin class has been organized in the Girls' High School.

The different evening schools scattered throughout the city have been consolidated into four buildings—the Mission, Geary street, Washington and Lincoln. This is an excellent move, as it insures greater efficiency and a better attendance.

A movement in the Board to discontinue the special teachers in military drill and calisthenics is being urged by a number of the most influential directors.

Twelve teachers were elected in December to serve as regular substitutes. All were females. Would it not be a good idea to add a couple of men?

The event of the year 1877, in the way of school exhibitions, was the entertainment given on Wednesday evening, December 19th, at Platt's Music Hall, by the South Cosmopolitan Grammar school, A. Herbst, Principal. Platt's Hall, next to Union the largest in the city, was crowded to repletion. The programme, which included calisthenics, recitations, a fairy extravaganza, and some fine tableaux, "went off without a flaw or hitch." Financially, as well as in every other point of view, was the entertainment a success, over \$800 in gold being the net proceeds. To the indefatigable exertions of the Principal and whole corps of teachers, but specially to Mrs. L. K. Burke, Mr. W. Zimmerman, Misses Phillips, O'Leary, Peyser, McColgan, and Shearer, is the success of the exhibition due.

ALAMEDA COUNTY.

Mr. C. H. Clement, formerly of San Jose, has been elected Principal of the Tompkins Grammar school of Oakland; and J. P. Garlick, formerly of the Vallejo Grammar school, was at the same time elected Principal of the Cole school of Oakland.

Graduating exercises of Miss Posten's Academy, Oakland, were held December 13th, at which four young women graduated.

C. T. Johns, one of the ablest teachers in the State, and formerly Principal of the Alameda High school, has been elected Principal of the Prescott Grammar school of Oakland.

Colonel John Scott, a public-spirited citizen of Alameda County, has donated \$20,000 for the purpose of founding a technical school, or Mechanics' Institute, for the training of our youth in mechanical pursuits. It is supposed that some encouragement and assistance will be given the enterprise by the State Legislature.

CONTRA COSTA COUNTY.

Mr. Wm. Crowhurst has built up a very fine school at Somerville, in this county. We saw, a short time since, some specimens of receipts, bills, etc., written by pupils of this school, which were creditable alike to teacher and pupils. Practical work of this description is very valuable, and is apt to be too much neglected.

SACRAMENTO COUNTY.

At the late city election in November, A. C. Hinkson was, for the third time, elected City Superintendent. This indorsement of the eminent efficiency of Supt. Hinkson is the more gratifying, as his political affiliations are with the party which is in the minority in Sacramento city.

SOLANO COUNTY.

All the schools in Solano County are having vacation. The schools in Suisun, Vallejo, Vacaville, and Benicia will open in January. The other schools will not open until March. These schools are in a better condition now than at any previous time, owing to the fact that teachers have not changed schools very often during the past two years. They have an excellent corps of teachers, and hope to retain them by having ten months' school instead of eight, in all districts having more than fifty pupils.

C. B. Towle has been in Vallejo nearly seven years. He will be retained indefinitely if he chooses to remain. Mr. Congdon has charge of South Vallejo school. He has held the position about two years. Mr. Garlick has been elected to a position in Oakland. Mr. O. J. Willis will take charge of the primary department of the Vallejo schools in January. Geo. C. Richards and Miss M. Lucky have charge of the school in Bridgeport. Mr. C. W. Childs has been principal of Suisun school eight years. Suisun school has a fine lot of apparatus, all of which has been secured by school exhibitions. Following is a list: Printing press and type, telegraph instruments, physiological models, (same as those in Normal School) human skeleton, tellurian, barometer and rain-gauge, relief map of California and relief models of the United States, two organs, and a great number of maps and charts.

A. Sutphen is principal of the Benicia public schools. Benicia schools are doing good work.

In a Vallejo daily, we see some statistics of the High School, which shows that a large percentage of the pupils who enter that institution complete the course and graduate. We have no doubt that this is largely due to the efficiency and high character of the Principal, C. B. Towle.

SISKIYOU COUNTY.

On account of the scarlet fever, which has been raging, and continues to some extent, the schools of Yreka have been closed until after the holidays. Several of the more advanced pupils have been called away by death, while quite a number have been prostrated by the disease. We hope that it may not spread to the surrounding districts, and that the new year may bring a purer atmosphere as well as new life and energy for the work of another year.

At the recent Teachers' Examination, second grade certificates were granted to E. H. Hall,

W. H. Laird, and Mrs. H. L. Denny; and a third grade certificate to Miss Susie L. Corey, by the County Board of Examination.

Several cases of fever have been reported in other parts of the county, but as yet it has not spread very far.

The holidays are upon us, and the schools have nearly all closed for a brief respite, to recruit their wasted energies.

SAN BENITO COUNTY.

J. N. Thompson, Principal of the Hollister school, has accepted the Principalship of the Pacheco school, Contra Costa County, and will begin in his new location March 1st.

An excellent closing exhibition of the Lone Tree school, Miss Belle Ashley, teacher, took place December 7th.

LOS ANGELES COUNTY.

The following is the prospectus of Miss Marwedel's school in Los Angeles city. From it a fair idea may be gained of what that highly capable lady is doing to advance the educational interests of this State:

"The introduction of an artistic and industrial education as a means of development of talents in our young, has awakened a general interest in the minds of a number of persons who, recognizing the practical benefits to be derived from such education, have conceived it possible to give such instruction to those who should desire it, and in such branches as may be chosen by the pupils. Efforts made in this direction have met with more favorable results than could have been expected, and the following ladies and gentlemen have promised to give free instruction for two months: Miss L. Henkley, making flowers in wax; Miss E. Marwedel, kindergarten fancy work; Mrs. L. Lewis, oil painting and wood carving; Mrs. Hammond, leather work and embroidery; Mrs. Morris, needlework; Mr. Buchanan, cabinet making; Mr. Herbert and Mr. G. M. Woodward, drawing; Mr. Wm. Decelez, modeling and wood sawing; Mr. Henry Glass, pasteboard making; Mr. E. A. Preuss, calisthenics; Mr. H. I. Haber, drafting; Mr. B. Weinhold, practical botany as taught in Germany and Austrian school gardens."

This prospectus is signed by seventy-four patrons, numbering the most public spirited and best known ladies and gentlemen of the city.

LAKE COUNTY.

The Kelseyville school, under the management of A. O. Morford, an efficient teacher,

closed its summer term December 10th. Mr. Morford immediately opened a private school, to continue until spring.

Mr. J. F. Scott has opened a private school in Lower Lake.

Miss Stinson has assumed charge of the Spruce Grove school.

Miss Fees has taken the Lower Lake school.

Prof. Ferguson has opened a High School class at Upper Lake.

CORRESPONDENCE.

CONCORD, MASS., Nov. 12, 1877.

EDITOR OF THE PACIFIC SCHOOL AND HOME JOURNAL—DEAR FRIEND: I duly received your letter, which I read with much interest. I thank you for the numbers of your Journal which you have sent me. It is full of interesting information concerning the cause of education upon the Pacific Coast, and in its original essays will compare well with any periodical of the kind published at the East. It must be invaluable to every one connected with the schools of your part of the country. I was glad to see the "Educational Symposium" upon the Spelling Reform, in the August number. It is an excellent way of presenting in one article what can be said by the ablest writers for and against any proposed innovation. It is like a discussion in court, and as sometimes happens in that case, I agreed with each disputant until I had heard the next, and so at last became a convert to the opinion advocated by Miss Kate Kennedy, a lady whose excellent service in the department I well remember.

I am not surprised at your publishing an educational paper, because I think that a graduate of the San Francisco High School would take naturally to such a vocation. Success attend you.

I have ventured to give you the little picture of Concord as it is, because it must be more interesting to your readers than anything relating to myself alone, and because I notice you publish a "Home" as well as a "School Journal." Allow me, however, to say for myself that I feel as great an interest as I ever did in the cause of education in California; that I rejoice in the progress of her schools, and wish to share in the pride you must feel when you read, as I have done in to-day's Boston *Advertiser*, the declaration of Mr. Philbrick, the Superintendent of the

Boston schools, that "the city of San Francisco is admitted to have one of the best systems of education in America." I desire to be remembered most cordially to the teachers with whom I was once associated in the Department of San Francisco, and to all the pupils who were in the High School while I was connected with it. I shall rejoice if I have still a place in their memory.

Thanking you for your friendly letter, and again wishing you great success in your laudable undertaking, I am, very heartily, yours,

GEO. W. MINNS.

SAN BERNARDINO, CAL., Dec., 18, 1877.

EDITOR JOURNAL—Dear Sir: The following problem was given me the other day by one of our lumber-mill owners, and I send it for your paper, if you think it worth the while to insert it. Its simplicity commends it, and it is of a sort that shows the need of applied arithmetic:

A San Bernardino lumber-mill owner owes, at the close of the season, \$5 to his teamster; this teamster has on his wagon 1500 feet of lumber, worth \$12 per m. at the mill, and for what he hauls for the owner he will receive \$8 per m. Now how many of these 1500 feet shall he deliver at the owner's yard, and how many take for himself, in order to "square the account"?

Let our Pacific Coast teachers who believe in making a practical application of arithmetic solve this problem themselves, give it to their pupils, and send their answers to this journal.

Respectfully yours,

CHAS. R. PAINÉ.

Examination Questions.

The following were the questions prepared by the California State Board of Examination, and used in all the counties at the regular quarterly examinations for teachers' certificates, December 5th, 6th, 7th.

ORTHOGRAPHY.

(100 credits.)

1. What are diacritical marks? Place the proper marks over the following words: Often, dessert, mercy, finale, allopathy, Colorado. (10 credits.)
2. Spell correctly the following words: Ricochet, elysian, calliope, Yukon, phrenzy, adze, idyl, criticize, peer, diaphragm, Meiggs, guernsey, depot, precious, alias, Lynn, gorgeous, orthoepy, monopolize, arch, buttress, peasant, exceed, chaos, contumacious. (go credits.)
3. Give three ways by which derivations may be formed. (10 credits.)
4. Give two examples of primitive, two of derivative, and two of compound words. (10 credits.)
5. Give all the ways of spell-

ing the following words: Oar, (ore, o'er) seer, (sere, cere) you, (yew, ewe) site, (sight, cite) fain, (feign, fane).

GRAMMAR.

(10 questions—10 credits each.)

1. What is the difference between a relative pronoun and a conjunctive adverb? 2. Why are intransitive verbs not used in the passive voice? 3. When a verb has two subjects, differing in person and number, how are these subjects arranged, and with which should the verb agree?
4. Parse the italicized words in the following sentences: *He felt disposed to go.* He brought me some fruit. We are come too late. Would it not be better to remain? The problem seemed easy to solve. I saw him coming.
5. How can you change a complex to a single sentence? Give an example. 6. Compare humble, square, much. 7. Define case as the property of a noun. 8. What is meant by "government," and "agreement." 9. Syllabilize convenient, pecuniary, genius, gnome. 10. Give an example of a sentence, phrase and clause.

ARITHMETIC.

(10 questions—10 credits each.)

2. A merchant bought 240 metres of silk at \$2 per M., and sold it at \$1.95 per yard. Did he gain, or lose, and how much? 3. How many wine gallons will a cistern contain which is 9 $\frac{1}{2}$ feet long, 4 $\frac{1}{2}$ feet wide, and 5 $\frac{1}{4}$ feet deep? 4. Sold lumber on commission of 5 per cent. Invested net proceeds in dry goods at 2 per cent. commission. My whole commission was \$70. What was the value of the lumber and the dry goods? 5. A dry goods merchant sells cloth for \$168, by which he gains 20 per cent. What must be the advanced price so that he can deduct 5 per cent. and still make the same profit? 6. A broker invests \$3000 worth of gold in U. S. 6's, which were worth 10 per cent. in currency. What was his annual income from the investment, gold being at 134 per cent.? And what the rate per cent.? 7. What relative quantities of silver $\frac{3}{4}$ pure, 5-6 pure, and 9-10 pure, will make a mixture $\frac{7}{8}$ pure? Prove. 8. What is the circumference of a circle whose diameter is fifteen rods? 9. How much less will it cost to fence 40 acres of land in the form of a square, than in the form of a rectangle of which the breadth is $\frac{1}{4}$ the length, the price per rod being \$1.40. 10. Explain the required method for teaching Arithmetic in the public schools.

GEOGRAPHY.

(10 questions—3 credits each.)

1. What is the season of the year at Cape Horn in July? 2. What advantages are derived from ocean currents? 3. Draw an outline map of the locality which is the field of the present war. 4. What are isothermal lines, and do they follow lines of latitude? 5. What rivers and lakes of the Pacific side of the continent have no visible outlet? 6. Name the dairy, lumber and mining counties of California. 7. Where is the Isle of Man? Prince George's Islands? 8. What are the commercial products of the Farallones? 9. Name ten of the principal rivers of California. 10. Name ten of the principal mountains of California.

READING.

(25 credits.)

1. What is meant by a folio, a quarto, and an octavo volume. Give proper abbreviation for each. 2. What are the uses of the apostrophe, hyphen, caret, and cedilla? Give examples. 3. Give analysis and method of teaching "The Hare and the Tortoise," as found in the Fourth

Reader. 4. How do you know that your pupils understand what they read? 5. Why do you hear a reading class read?

ORAL READING.

(25 credits.)

The examiners should require each candidate to read a few stanzas in poetry, a few paragraphs in prose, and mark the credits considering three things, viz: Ease and expression, also accent and emphasis.

THEORY AND PRACTICE.

(5 questions—10 credits each.)

1. Name the characteristics of a good question and answer. 2. What three parties must co-operate to make a good school? 3. State methods and hygienes of ventilation. 4. What records and reports are required from teachers? 5. Give a synopsis of a day's labor in the school-room.

DEFINING AND WORD ANALYSIS.

(50 credits.)

1. What are synonyms? Give three examples. 2. Give ten suffixes, denoting "one who," a person. 3. Give model of a written exercise that you would require from your class, taking the words add, blind, roast, during, hair. 4. Define, separate into roots, prefixes and suffixes, the following words: Incorporate, homogeneous, thermometer, immortalize, egregious, quadruped, recrimination, pantheism, inoculate, monochromatics. 5. What suffixes are used to form diminutives?

MENTAL ARITHMETIC.

(50 credits.)

1. The sum of two fractions is 2-5, and their difference 2-7. What are the fractions? 2. 4 9-10 are how many times 6 2-5? 3. What is the interest of \$150, for two years and ten months at 8 per cent.? 4. A and B hired a horse and buggy for \$25: A used it three weeks, B two weeks, what should each pay? 5. How many wine gallons in 1,386 cubic inches?

ORAL GRAMMAR.

(25 credits.)

Examiners will ask the following questions, orally, at any time during the examination:

1. State what you think is the best method of giving children elementary notions of the function of different parts of speech. 2. Give, as to a class, rules for writing a letter correctly. 3. State why the common use of such words as "splendid," "magnificent," should be discouraged. 4. Make a "complete statement" of the object of this examination. 5. Explain the use of "set" and "sit," "learnt" and "taught."

HISTORY OF UNITED STATES.

(50 credits.)

1. What two events led to the settlement of the present boundary line between the United States and Mexico? 2. What State owes its political existence to the religious intolerance of the Puritans? Origin of the name "Puritan"? 3. What section was settled by each of the four nations who made early discoveries in America? 4. State what you know of the history of California and its social condition prior to the gold discovery. 5. Give the names of ten military heroes of the Revolutionary war, and ten leading inventors.

NATURAL PHILOSOPHY.

(50 credits.)

1. There are three apertures in a reservoir of water, 1, 4, and 16 feet below the surface. With what comparative velocity will their streams flow? 2. What are the only reliable indications afforded by the thermometer, and what does a sudden fall of mercury indicate at the different seasons? 3. Describe the diving-bell, and show how descents are made in it. 4. What is the velocity of sound, and how do solid, liquid, and ærial bodies compare as conductors of sound? 5. About how many cubic inches of steam will be required to raise ten tons ten feet high? If the steam were condensed, how many cubic inches of water would it make?

PHYSIOLOGY.

(50 credits.)

1. In what substance does albumen exist? Casein? Fibrin? Why is unripe fruit indigestible? 2. Describe the structure of the stomach, and show how the process of insalivation is carried on. 3. How are you able to discriminate between an artery and a vein in case of a wound? What does the pulse inform the physician? 4. Upon what organs does vocal culture depend? 5. State what you know of the relations of mental activity to health.

SCHOOL LAW OF CALIFORNIA.

(25 credits.)

1. What is a School District, and what are its officers? 2. How may a new district be formed? 3. In what ways may a district forfeit an appropriation? 4. State the respective duties of the Board of Examination, and of Education. 5. To what school offices are women eligible?

INDUSTRIAL DRAWING.

(25 credits.)

1. What is meant by the terms "Free Hand," Geometrical, and Mechanical Drawing, and how are each applied? 2. Draw a figure containing all the straight lines, and give an analysis, such as you would require from a class. 3. Dictate, as to a class, the drawing of the Latin Cross. 4. What lines may be parallel? 5. State what instruction you have had in drawing.

MUSIC.

(25 credits.)

1. Within what compass should school songs be written? 2. Should note singing be taught in our public schools? 3. State what you think of the moral influence of music in schools, and how you would increase that influence. 4. Give examples of songs calculated to inspire courage, heroism and patience. 5. How much time should be given daily to music?

BOOK NOTICES.

THE SCIENCE AND ART OF TEACHING, or the Principles and Practice of Education. By George Victor Le Vaux, Member of the Royal College of Preceptors, London, England, author of "The Twin Records of Creation," etc., etc., with an Ethnological Essay by the Rev. George Bell, LL.D., Queen's University, Kingston. Toronto: Copp, Clark & Co., 47 Front street.

This is eminently a common-sense book, and one from which teachers may gather many good

suggestions, though some of its aphorisms may seem as old as language itself. The book consists of about 300 pages, and is divided into three parts. Part First treats of First Principles, though with the exception of chapters 7 and 9 it relates mainly to the character and responsibilities of the teacher; and the term, "first principles," must have a different sense from Herbert Spencer's use of it. Part Second treats of School Management, Part Third of Methods of Teaching. These two parts are the most important and valuable to the teacher, and few can read them without advantage. No matter how often the ideas have been repeated, they stimulate and reanimate the earnest teacher, and he feels freshened and strengthened by the review. Mr. Le Vaux is evidently an able, well-trained teacher—one who has made good use of his observing powers in a varied and large experience. He was once a member of the Royal College of Teachers, London, and his educational articles have been published in England, Australia, Canada, and the United States; and judging from this work and the articles written for this journal, we should say he is a valuable accession to our corps of teachers.

THE ENGLISH LANGUAGE: Suggestions for its correct and fluent use without technical grammar: by S. S. Saul, San Leandro, California. Printed for the author by B. F. Sterett, 1877. Price, fifty cents.

We take it that this book was not intended for use in the school-room, for the author dedicates it "to those who have studied grammar without benefit, those who have forgotten all they ever did study, and those who never studied it at all." It certainly is not suited for use in the school-room. It is merely some suggestions on teaching English. Mainly, it is a statement of the author's dislike of grammar in its present conditions. Seventeen of the fifty pages are occupied with the introduction, which the author desires to be studied carefully, because it contains the PRINCIPLES of the work. Really, it is a series of statements that the grammars are all wrong, and worse than useless. This may possibly be so, but we do not see how his book will remedy the evil in the school-room, or out of it. If Mr. Saul desires to create a reform, why does he not make a book adapted to daily use with teachers in the school-room, where it will tell if it is a POWER. Making complaints about books and systems and methods does not cure the evil. We do not believe in pulling down, until we can put a better thing in the place of that destroyed.

He makes some valuable suggestions, and we think with him, that probably too much time is wasted on memorizing mere technical grammar. But give us the substitute.

Pretty Polly Pemberton, A Love Story. By Mrs. Burnett, author of "That Lass o' Lowrie's," "Theo," etc. Reprinted from Peterson's Magazine. Philadelphia: T. B. Peterson & Brothers.

This is a pretty little story. It is not an ambitious work, but simply what its title shows—a simple love story. And it is all it claims to be. Like all Mrs. Burnett's efforts, it shows talent. Every tale she has written shows unmistakable power. No one but an artist could produce her characters. They are natural as life, and always exhibit remarkable qualities that make them unique and striking. The *personals* in this little story are no exception. They all show the touch of Mrs. Burnett's hand—of genius in fact. The tale is charming.

THE JANUARY MONTHLIES.

The twenty-first volume of *Lippincott's Magazine* begins with a very strong number. In fact, this journal maintains a high place in the periodical literature of our day. The articles of special interest in the January number are Edward King's "Odd Corners in Austria," giving picturesque descriptions, well illustrated, of Trieste, Pola, and other places in Southern Austria; an account of "The Late Judge Nicholas of Kentucky," interesting both for its political and its personal details, by Paul R. Shipman; and General Brisbin's narrative of "A Journey through the Wind River Country; Mrs. Hooper describes the *Mont-de-Piete*, the great pawnbroking establishment in Paris. "For Percival," the new illustrated serial, continues bright and attractive. Other stories in this number are "Voiceless," by Robert A. McLeod; "Uncle Pompey's Christmas," by Jennie Woodville. The poetry is by Celia Thaxter, Emma Lazarus, and Edgar Fawcett, and the reviews are unusually numerous.

Harper's for January sustains its usual high standard. This New Year's number is especially rich in beautifully illustrated articles on travel. From "A Glimpse of Prague" to "On the Welsh Border," thence to the "Hot Springs of Arkansas," again to "Life on Broadway," and with Jessie Benton Fremont to conclude her "Year of American Travel." Of special value to teachers is Dr. Draper's "Popular Exposition of Some Scientific Experiments."

The departments are as excellent as ever.

Appleton's Journal contains some very interesting articles which every one should read. Notable are "Up among the Spiders," an illustrated description of the building of the great New York and Brooklyn Suspension Bridge;

the serials, "By Celia's Arbor" and "Cherry Ripe," and an unusual number of excellent short poems.

The Galaxy for January is a number of unusual brilliancy. It has articles by Henry James, Jr., Lawrence Barrett, Junius Henri Browne, Theodore Bacon, J. H. Siddons, Walter Cary, Richard Grant White, and others. The most noticeable article is perhaps by Lawrence Barrett, on Charlotte Cushman. Hook, Thackeray, and Dickens are compared by Walter Carey. Paris is revisited by Henry James, Jr. "The Defeat of Justice" is described by Theodore Bacon. "The French Enchantress," being Julie Recamier, is sketched by Junius Henri Browne. "Americanisms" are brought out by Richard Grant White. The departments are even better than usual.

The Popular Science Monthly for January opens with a valuable illustrated article by Prof. R. H. Thurston, on "The Growth of the Steam Engine." Teachers will find this, as well as "How to Make our Ideas Clear," by Prof. C. S. Peirce, and "Style," by T. H. Wright both interesting and instructive. Prof. Edward S. Morse has a very readable article on "Health Matters in Japan," and Californians generally will recognize the excellent portrait of Prof. Joseph Le Conte, whose memoir is in this number. An important announcement is made by the editor of a series of sociological papers by Herbert Spencer, on "Ceremonial Government," to begin in the February number.

Altogether the conductors of this magazine appear determined that it shall retain its rank as the foremost scientific magazine in the world.

The January *Scribner* begins and ends with a Christmas poem. Another phase of the holiday feeling is given in Irwin Russell's "Christmas Night in the Quarters," containing three separate dialect poems, with illustrations by Hopkins. "Fox-hunting in New England" may fairly be called a Christmas topic, and Mr. Rowland E. Robinson discusses it with enthusiasm in an illustrated paper of fourteen pages. An anonymous paper on "Dr. Schliemann at Mycenæ," reviews in a judicial vein the famous discoveries of that explorer. John Burroughs returns to his favorite topic in "Birds and Birds." Dr. Holland contributes a short poem entitled "A Glimpse of Youth." The story of the number, by the elusive "Saxe Holm," relates to the Civil War, and is called "Joe Hale's Red Stockings."

The editorial departments Dr. Holland makes as attractive as ever.

The January *St. Nicholas* is full of mirthful fancies, suggestions, wisdom, good-will, fine art, and wholesome and strengthening literature. The number begins with the first half of a lovely illustrated story of the Middle Ages, "The Ravens and the Angels," by the author of "Chronicles of the Schonberg-Cotta Family." Farther on is George MacDonald's promised "Letter to Young Americans," and near the end is a fresh and breezy little song, "Skating," by

the late Theodore Winthrop, never before printed. Full of novelty and vivacity are the ample installments of the serials, "Under the Lilacs," by Miss Alcott, and "Tower-Mountain," by Gustave Frankenstein, with capital pictures by Mary Hallock Foote and J. E. Kelley. Among the more markedly instructive articles are "An Agreeable Guest," in which one learns how to behave when visiting; "The Stork and the Crane," an illustrated humorous fable by Howard Pyle; "The Arms of Great Britain," a history of the Coat-of-Arms of the Old Country, by Susan Archer Weiss, with a picture, etc. The "very little folks" are provided with easy reading and a fine picture about "Three Smart Little Foxes," and a page full of funny illustrations of the Japanese "House that Jack built." These are but a few of the good things with which the number is crowded.

In the *Christian Union*, Mrs. Harriet Beecher Stowe has begun a serial which is one of her admirable pictures of New England country life. The title is "Our Folks at Poganuc."

One of the chief attractions of *The Independent* continues to be the able lectures of Rev. Joseph Cook, though the usual variety of interesting and instructive matter is weekly presented to its readers.

HON. CHARLES FRANCIS ADAMS made a pleasant speech the other day, at the reunion of the old scholars of the Boston Latin School, in the course of which he said: "In regard to this matter of education, it has happened to me, what I believe has happened to very few persons living. I have never had the happiness of any continuous instruction in school, and I look to the two years that I spent in the Latin School as the only two years that ever gave me any lessons to learn." While in Russia, where his father was Minister for six years, and subsequently in England for two years, he learned nothing at school, but, at the same time, while living quietly at home, caught four different languages, and could speak each with equal facility. From the Latin School he was taken to Washington, where he learned nothing, and in due time sent to Harvard, where he was not taught much, but learned a great deal, spending most of his time in the library. Mr. Adams hints rather broadly that he does not think much of drilling scholars as you drill soldiers.—*Harper's Weekly*.

BOYS' AND GIRLS' DEPARTMENT.

Edited by Mrs. L. A. K. Clappe.

THREE DAYS OF GRACE.

BY CHARLES H. SHINN.

[This play was written for the pupils of Washington College, and used at an entertainment. It has never before been published.]

CHARACTERS.

STELLA RANDALL—Thoughtful, noble; about seventeen.

ALICE WAINWRIGHT—Flyaway, frank, independent; about sixteen.

MURIEL FAY—Graceful, delicate; about seven.

MR. IRONS—Muriel's grandfather; old-fashioned.

MR. T. HARRISON FORDYCE—Teacher, pedantic.

EEM. BRYANT—Lives with Mr. Irons.

LFF. WALTERS—Wide-awake youth; Alice's cousin.

FIRST SMALL BOY, ~~WILL~~ THIRD SMALL BOY,
SECOND SMALL BOY, POLICEMAN.

ACT I

SCENE.—*A sitting-room in Stella's house.*
Stella. (Reads from Tennyson, walking :)

"A central, glory-circled memory;
Divinest Atalantes, whom the waves
Have buried deep, and thou of later name,
Imperial Eldorado, roofed with gold,
Shadows to which, despite all shocks of change,
Men clung with yearning hopes that would not die."

(*A rustle outside.* She closes the book, sighing.)

I think that fly-away Alice is coming.

Alice. (*enter left*)—O, you dear soul, I'm precious glad to see you. Lots to tell: New teacher, and Psalm of Life, and Muriel's money.

Stella.—How absurd you are! Please explain a little. You quite rouse my curiosity.

Alice.—I meant to; of course! Listen, Lady Confessor! T. Harrison Fordyce is

a genius of conceit. "O, you needn't look shocked!—just come into the Academy some afternoon and listen! "T will make your hair rise!" But we're quiet as anything when he reads poetry, and talks of the divine "*Afflatus*." It isn't that I hate him, tho' he parts his air in the middle, and dyes his pallid moustache; but—eouch!—think of his Psalm of Life paraphrase!

Stella.—"Tell me not in mournful numbers"—how could he amend that?

Alice.—He does it by inspiration, of course. It happened this way: Belle Rivers and I were reading it at recess, when he came up, and said, trying to look impressive: "Did you ever notice the large magnificence of these lines when properly paraphrased?" As this: 'Mention not to me in lamentable reverberations that the quintessence of developed cells is but an unoccupied ecstasy.' Then Belle (you know how sly she is) said "Thank you; that fills my mind with new thoughts." Then he smiled, and said he always thought she had a superior mind; but I just sat there and giggled! My! wasn't he cross! So in literature, he said, some souls were divine, and some were clay—and that meant me. Do I look muddy, Stèlla?

Stella.—Why no, dear—it is not visible, at least.

Alice.—Humph, I'm half offended, and propose to stamp my foot! (*springs up*) There!—O yes; about Muriel. Her uncle in China sent her \$1000, and Mr. Irons, that queer old Scotchman, is going to take care of it. She told me yesterday.

Stella.—That is strange, very strange; I spent last night there, and she did not say a word.

Alice.—The little darling can't tell you

everything—maybe she forgot it. O, Star! did you see that Lem Bryant over at Mr. Irons? What do you think of him?

Stella.—I am afraid of him—he walks so like a cat.

Alice.—Yes; but—

(Enter Jeff Walters, panting.)

Jeff.—Hullo, Alice; good afternoon, Miss Stella. There is lots of fun going on. We have the richest thing on Fordyce. You see he thinks all the girls in Jefferson are wholly in love with him.

Alice.—Umph—umph.

Jeff.—He is an innocent chicken, and he knows he can't help being good looking, so he does not blame the girls, but he wishes they would not pour their incense on his ambrosial locks.

Alice.—No. Bergamot is better, or a little lard.

Stella.—I think you have no business to talk so about a man who has only been here a week.

Jeff.—Here's proof. We boys found a leaf from his note-book, and don't he give it to you, Alice! Just read. (Holds out a paper; *Stella* being nearest, forces it into her hand; he goes out. *Alice* starts to take it; stops.)

Alice.—My eyes ache to see; but it would be wrong, Alice Wainwright! Yes, it would. Burn it up, *Stella*.

Stella.—I shall hand it back to *Jeff*, if he has not gone.

(She starts to leave the room, but is met at the door by *Fordyce*, just beginning to knock. Overwhelmed with confusion, she stammers out:)

M-Mr. *Fordyce*, I believe. Please come in.

(*Fordyce* bows to *Alice*. *Stella* takes the opportunity to slip the paper into a book on the center-table. *Fordyce* sits down dangerously near.)

Fordyce.—The ethereal pleasures of thought allured me to walk forth, young ladies.

Alice.—Yes sir.

Stella.—And, and, is school-teaching pleasant, Mr. *Fordyce*?

Fordyce.—It is a beautiful labor, Miss *Stella*. When I contemplate my own power and influence over these weak minds, I am often forced to express my thoughts in verse. Not that I can equal that effulgent Pacific eagle, Joaquin Miller; but *Fordyce* follows in his footsteps.

Alice. (Aside)—The footsteps of an eagle!

Stella.—Poetry is a divine art, Mr. *Fordyce*, and only strong, pure souls can speak or live it.

Fordyce.—You are a sybil. Even so have I said, and stood above the grovelling chant of years.

Stella.—I think—

(Enter *Muriel*—right. Rushing in, throws herself on *Stella's* lap. The book falls to the floor. *Fordyce* picks up the paper, starts, opens it, begins to read.)

Muriel.—O Star! I don't believe it, and I won't! It isn't true; isn't! isn't! My darling Star! There! I hear their steps, and great angry grandfather. Shut the door, Alice. They shan't come in, to accuse my Star! Quick! Quick!

(*Muriel* faints on the floor. Steps outside. They raise *Muriel*. Enter *Irons* and *Lem Bryant*. Left.)

Irons.—Now, young leddy, I should like to see you alone a moment.

Stella.—Sir, I have only friends here, I hope, and will listen, here, to what you say.

Irons.—Spunky, eh? Whaat! my *Muriel* here? So she came to warn you. (Stoops, seizes her from them, lifts her to a sofa; straightens up with a hard ring in his voice.) I woan't beat the bush now mair! The money's gané—my little *Muriel*'s money! Ye was there on the Thursday, an' ye had a light in the office.

Alice. (Clutching him by the shoulder.)—It's a lie! Who says so? That viper. (Points to *Lem*.)

Irons.—Child, dinna fash thyself. It maun be. The money's gane, an' on the flure this. (Exhibits a small pocket knife.)

Stella. (dazed)—Yes, that was mine; I lost it Monday.

Irons. (To *Lem*, handing him the knife)—Keep that.

Fordyce. (aside)—I saw. (Stoops, crunches paper.)

Irons.—Awfu', sae bonnie, and yet sae wrang! Young leddy, give us back my *Muriel*'s money, and we will gang.

Stella.—I was never in your office, sir.

Irons.—Lem! (he steps forward.)

Lem.—I sleep in the garret, and pass up outside. Thursday I saw a light reflected from the room below, and the shadow of a hand pulling at the drawer.

THE PACIFIC SCHOOL AND HOME JOURNAL.

VOL. I.

SAN FRANCISCO, FEBRUARY, 1878.

No. 12.

SIMPLE EXPERIMENTS IN PHYSICS.

BY VOLNEY RATTAN.

II.

THE LEVER—LESSON II.

Now I think you are prepared to witness a few more experiments.* First, however, let me write John's explanation upon the board: "When one brick balanced four bricks they were placed so that, if the bar moved, the one brick traveled four times as far as the four bricks. Now, since it takes just as much power to move one brick four inches as to move four bricks one inch, just as much work was done on

one side of the support as on the other; and this is why they balanced."

This tin bucket is nearly full of wet sand, and the spring balance says it weighs eight pounds. I hang it two inches from the center of the bar, and press with my finger upon the other end, sixteen inches from the support. How much is the pressure? The spring balance will tell whether you are right. I let its hook take the place of my finger, and, as you see, the pressure is one pound. Now I hook the balance to the other end of the bar, and, by pulling up, bring the bar to a level (Fig. 4). The index marks a lifting force of one pound. The diagram which was drawn on the board yesterday (Fig. 3.) shows that when I raised the bar my hand moved eight times as far as the bucket. Slipping the bail of the bucket over the bar, I slide it to the center. The balance does not show any pull upon its spring. I move it two inches toward the end, and the index moves again to the one pound

* The pupils have spent fifteen minutes in reading their solutions of the questions asked in the first exercise, and in trying to tell what law or general statement applies to all the facts discovered. Many can solve the problems; a few can give a rule, and John has a reasonable explanation.

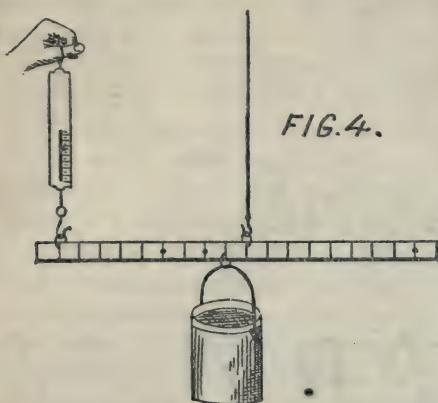


FIG. 4.

mark. I move it two inches farther, and the pull upon the balance is two pounds. Resting the bucket at each of the remaining marks in succession, we find the supporting power to be three, four, five, six, seven, eight pounds, the last number equaling the weight ; because, as you see, when my hand moves, the weight moves the same distance. We could get the same results by moving the bucket on the other side of the support. Observe that if the weight's distance from the support is one-fourth the power's distance, the weight, when moving, travels one-fourth as far as the power, and the power is one-fourth as great as the weight : and any fraction can be put in the place of one-fourth.

Removing the spring balance and the bucket, I change the support of the bar to a point six inches from one end ; hook the bucket two inches from the same end, and raise it by pressing upon the other end. The bucket is four inches from the support, and my finger is twenty-eight inches from the support on the other side. Since four is one-seventh of twenty-eight, my hand moved seven times as far as the bucket when I raised it ; and the power should be one-seventh of eight pounds, or one and one-seventh pounds. But, see, the balance which I have put in place of my finger says less than one pound is pulling upon it. Can you explain this ? James

is right. The longer arm of the bar helps lift the weight. We call a bar used in this way, or to move parts of a machine, a "lever" ; and the support that it moves over or upon is called the "fulcrum." The fulcrum is now between the ends of the lever ; the weight is at one end, and the power which moves or balances it is at the other end. With a lever used in this way, a man can lift a greater weight than he could by taking hold of the weight with his hands. So we say the lever enables us to gain power. We could make the weight and power change places, and with a great, slow-moving power a light weight could be moved rapidly. Thus, it would be proper to say, that with the lever we can gain velocity. We can use the lever another way. I move the support to the end, hang the bucket four inches from it ; with my hand thirty-two inches from the fulcrum, I lift the weight. My hand moves eight times as far as the bucket, therefore one pound would lift the weight, were it not for the fact that half the lever must be supported by the power. As before, if weight and power change places, velocity will be gained.

A lever, then, may be used in two ways* :
 1st. *The fulcrum may be between the ends* ;
 2d. *The fulcrum may be at one end*. In either case we may gain power or we may gain velocity. In the first case, if the fulcrum is in the center, neither power nor velocity is gained when weight is at one end and power is at the other. A lever may be used this way to reverse or transfer motion, or to enable us to tell when two forces are equal, as the walking beam of a steamboat, the evener or doubletree of a wagon, the beam of a druggist's scales, etc. In the second case, weight and pow-

* The books always say there are three classes of levers ; 1st. Fulcrum between the ends ; 2d. Weights, load, or work between the ends ; 3d. Power between the ends. If a book is used, it would not be best to change the classification.

er move in the same direction. In our experiments we have raised weights with the lever ; but levers are generally used to help do other kinds of work. Calculate the crushing power of a nut-cracker, a pair of pincers, the hedge-trimmer's shears, etc.

You may now write this definition in your blank-books :

"A lever is a stiff bar, which may be moved upon an axis at one end, or between the ends."

And this general law :

"If by any means seven pounds are balanced by two pounds, the two pounds will, if set in motion, move seven inches, while the seven pounds move two inches ; and any number may be put in place of two and seven."*

HINTS ON THE AMENDMENT OF OUR SCHOOL LAWS.

BY PROF. G. V. LE VAUX.

A few months ago the Grangers of this State published a very interesting paper on educational matters. Though approving National or State Education, the brethren seem to be more or less dissatisfied with our present system of public instruction. While pointing out the necessity of a broader and more comprehensive plan of mental culture, they strongly advocate "the education of the hand." In other words, they believe that our system of public instruction should be deeper and wider, more efficient and more practical, and they therefore recommend a change in quantity and quality—in material and means—so as to give useful physical expression to mental acquisitions, and thereby secure certain practical results which, in their

*I think teachers will find most first grade pupils unable to understand the concise statement : The ratio of the distances traversed by two unequal weights moving in equilibrium is inversely as the ratio of the weights.

opinion, should be the primary object of all sound public education. The publication of this document alienated from them a number of honorable, conscientious teachers—men and women who honestly believed the Grangers' ideas to be wholly impracticable, if not altogether inimical to the profession. Doubtless this misunderstanding had its origin in their failure to comprehend the scope, or limit of application, of the Grangers' *pronunciamento*, and their consequent belief in the impossibility of modifying it to suit the requirements of individuals, and the ever varying circumstances of different localities. For our own part, after devoting much time and study to the subject, we must say that our sympathies are on the side of the reformers ; and although we foresee many obstacles to the complete success of their plan, yet they are not insurmountable. Everything is possible to a united and intelligent people. The Grangers express the wants of the country. In doing so they are a little in advance of the average public opinion of the State ; but a time will come when their views will be law. At present there are many difficulties in the way ; but perseverance, patriotism, and public spirit will gradually remove them.

The Granger, as we understand him, desires practical elementary education as far as possible, and thinks the subjects of study in towns, farming districts, and mining regions should be somewhat different to what they are at present. He believes, for instance, that, in addition to the present ordinary school subjects, children in farming districts should study land surveying, elementary geology, agricultural chemistry, the philosophy of irrigation, etc.; while in a mining region children should be taught the principles of geology, chemistry, mineralogy, etc.; and in cities and towns special attention should be given not only to book-keeping but to political economy, and the laws and principles of trade. The

future of our State depends on the energy and skill with which our citizens apply themselves to trade, mining, and farming. Is it not strange, then, that the sciences immediately underlying these arts are almost wholly ignored in our public school *curriculum*, and in the granting of teachers' certificates! These subjects could be taught in nearly all schools with little or no additional expense, and without loss of knowledge in the subjects now prescribed. It is done in the public schools of Prussia, Great Britain, Ireland, Canada, and Australia. Why can it not be done here? It is true, there may be some difficulty in carrying out some of the Grangers' ideas now or hereafter; but why reject all because a few appear new-fangled or impracticable. Instead of suspecting the Grangers of being unfriendly to education, or condemning them as "visionary enthusiasts," we should be thankful for such an emphatic expression of opinion from a body of men so deeply interested in the public welfare. We should encourage free discussion, and impartially investigate the possible merits of every proposition advanced; so that if change be necessary, all may co-operate in making such improvements as will satisfy local and general requirements.

Appearances seem to indicate that the country is ripe for very extensive alterations in our school laws, both as to educational media and general administration. In the following paragraphs we have endeavored to summarize what seem to be the popular requirements, so far as we could ascertain them through teachers' conventions, political meetings and the public press; and though some of the ideas advanced may seem novel to persons who have not studied the school systems of Europe and the East, yet there is scarcely a proposition contained therein which is not in successful operation in certain States long noted for their educational facilities

and intellectual greatness. All things considered, our own school system is a good one and reflects much credit on its founders; but this is a world of progress; our State must not fall to the rear on the march. Our school system, however good, will therefore need improvement from time to time, so as to meet the increasing demands of the age. These improvements, beginning at the source, must be made to permeate the whole structure down to the base; otherwise, not being in complete harmony with the spirit of the times, they will fail in their object and fall short of their full sphere of usefulness. If from any cause the fountains of a river are rendered muddy or impure, it will be impossible to purify the waters of the stream unless we make the necessary improvements at the source. So with our public school system. If we would improve and more usefully direct our rivers of knowledge, so as to efficiently irrigate the unfruitful regions of the mind, we must widen and deepen them at the source; we must more or less alter or re-construct our State Board of Education, the great fountain under the Legislature whence emanate all our rules, regulations, and school laws.

The State Board of Education, as constructed at present, does not sufficiently represent the educational opinion of the country nor the professional capacity of its teachers. Moreover, its powers are too limited, and the individual obligations of its members to the public are altogether too vague and indefinite. The present members are, no doubt, good and worthy citizens, and have deserved well of the State. We have not one word of fault to find with them individually or collectively. Our desire is to see their number and their power increase. It would give us much pleasure to see them all take seats at a re-organized Board. However, the public are beginning to feel that in a great and enlightened State like this, the principle of

election should be recognized in the formation of the Board. They also think it unfair that "the six counties round the Bay" should have six representatives on the Board, while all the remaining counties of the State have no representation except their share in the two State officers—His Excellency the Governor, and our worthy State Superintendent. Worse still, the practical teachers of the State have no representation at all, except such as may be inferred by the presence of our learned friend, the Principal of the Normal School.

The principle of election has been adopted in some of our older States, and recently in several European countries—much to the advantage of education and the general satisfaction of the people. Our State Board ought to comprise at least thirteen members—one of the same to be *elected* by the faculty of the Normal School, one by the State University, one by the high school teachers, one by the County and City Superintendents, and three by the grammar and primary school teachers: the remainder to be *appointed* by Government. The State Superintendent (or the Governor) should be ex-officio chairman of the Board. The Board should meet at least once in three months—their expenses to be paid as at present. Teachers and others entitled to a representative at this Board (if the plan were adopted) might be furnished with blank voting papers from the office of the Superintendent, and after they had filled in the name of the person they wished to vote for, they could forward the same, under seal, to the State Superintendent or to the Board of Scrutineers appointed by him as judges of election. This mode of election to educational Boards is adopted in some countries, and is believed to be more simple, convenient, and satisfactory than the ordinary manner at political or judicial elections.

This Board should be entrusted by the Legislature with the general administration

of all laws relating to public schools, high schools, normal schools, and universities, and should have power to make any rules or regulations, alterations or improvements, consistent with the letter and spirit of our school laws. Among other duties which would fall within its province would be the selection at certain intervals of text-books for use in our schools, on the report of a Committee of its own members, or of the State Teachers' Association. This would relieve our Legislature from much petty annoyance from publishers and others, and at the same time reform a "crying abuse" by referring the selection of school books to professional teachers—the persons most competent to judge their merits.

Teachers should be encouraged and assisted to form efficient County Institutes or Associations. These Institutes should elect representatives to an Educational Conference, (or State Teachers' Association) to be held annually at Sacramento or San Francisco during the mid-summer holidays, under the patronage of the Governor and State Superintendent. It would be the province of this Association to discuss all matters connected with education—to recommend text-books, and suggest from time to time such alterations in the school laws as they thought proper. If it be true that the care of education is the most important branch of public policy, the expression of opinion of such a body of practical educators would naturally assist our Legislators in happily and advantageously solving such educational questions as would be likely to come before the Assembly.

Next in importance to the re-organization of the State Board and the formation of an elective State Teachers' Association, would be an alteration in the mode of granting teachers' certificates. Examinations for this purpose should be held only twice a year—during the Christmas and mid-summer holidays. The State Board

should reserve to itself the *exclusive* right of granting *first grade certificates*, County Boards being authorized to grant second and third grades. County Boards might conduct the examination of first grade applicants, the Chairman or Superintendent being required to forward to the State Superintendent, under seal, each evening the papers of such applicants—same to be examined by the Central Committee of Examination at Sacramento ; said Committee to report result to the State Board, who could then issue certificates accordingly.

We believe the examination for first and second grades should be extended so as to include such subjects as Geometry, Mensuration, Agricultural Chemistry, Geology, and Mineralogy ; and that when practicable the elements of these subjects should be taught in grammar and high schools.

We also venture to hope, in the interests of the profession and the public generally, that a clause will soon be inserted in our laws, to the effect that after a certain date, say 1880, no person *entering* the profession shall be eligible for examination for a second grade certificate, until he has taught successfully in a school at least two years on third grade ; and that no person shall be eligible for examination for first grade until he has had at least two years' experience as a practical teacher in the second grade. Teachers coming here, and holding State diplomas obtained in other States, might, however, be admitted to stand the examination for certificates of an equal degree with those they possess, provided they furnish sufficient proof that they have had the requisite *practical experience*. Without practical experience, no person, however learned, can possibly be a good teacher. Every true friend of education, every honest and intelligent citizen, should therefore call for the introduction of a law requiring practical professional experience from every candidate applying for any certificate above the third or initial grade.

No County Superintendent should receive less than \$1,500 a year, and he should be required to devote his whole time to the work. He should be held responsible for the classification and progress of the schools in his county. No person should be eligible to the office who does not hold a first grade State certificate or diploma for the whole term he would be in office. We believe it would be for the advantage of the profession and the public generally, if the term of office were increased to six years.

As a rule, teachers should be engaged by the year instead of being "hired for the term," as at present. We also believe that their remuneration should be based, 1st. On the class or grade of their certificates ; 2d. On the progress or efficiency of their school, as reported by the Inspector or Superintendent, and 3d. On the average *annual* attendance of the pupils. The first will impel teachers to attain high personal qualifications ; the second will reward individual effort and professional success, and the third will induce parents and trustees to keep their schools open the whole year, (allowing one month's holidays) so as to have a high *annual* average, and thereby procure the means to employ a highly qualified teacher. Good teachers will not then be driven out of the profession by short "terms" and long "vacations" as at present. They can then, as in other countries, devote their whole time and thoughts to their chosen calling, and not be compelled to become a "Jack-of-all-trades" between terms—a sort of intermittent professional who, like the Wandering Jew, can never "abide in one stay."

In conclusion, we would say that all school laws should be so framed as to excite and draw out the active sympathies of the people, and to secure the co-operation of the more intelligent, while making the system more popular with the masses. To effect these objects the Government must aim at supplementing what the people do,

rather than leave it optional with the people to supplement what the Government does. They must be led to feel that the public schools are really their own, and every encouragement should be given them to impose direct local taxation for the support of the same. The best means to create this interest would be to simplify the machinery of direct taxation, and to increase the State grants in proportion to the amount of local levies for school purposes. We have reason to believe that Government would serve the cause of education and render the public schools more popular, by making them more dependent on the direct support of the people, and by authorizing each District School Board to require the County Board of Supervisors to raise within its district and for its use any sums they please to devote to local education ; the same, with supplementary grants from the State, to be placed in the hands of the County Treasurer, subject to its order. This being done in each district, people generally would soon learn to take more direct interest in their schools ; and instead of their being open six, eight, or nine months "each term," as at present, it would become the custom to keep them open the whole year ; and instead of a teacher for every 100 or 114 pupils there would soon be a teacher employed for every fifty. Township Boards would be a great improvement on the present District Boards ; and we therefore venture to hope that it may be the pleasure of the Legislative Assembly to authorize their creation, whenever the people of two or more adjoining districts may desire their introduction.

As our Legislature is now in session and we shall soon have a Convention to alter and amend our constitution, the present time is favorable for the discussion of all educational and constitutional changes likely to benefit the people or the State. We trust, therefore, that our remarks will

not be wholly out of place, and that our readers while considering our suggestions will kindly excuse the omission of details which it would be impossible for us to include within the limits of a short magazine article.

MONDAY MORNING.

BY CHARLES H. SHINN.

There's a school-house hid in trees,
Lit by sun and swept by breeze ;
There the glad feet hasten through
The tall grasses wet with dew.
Ah ! I love each happy face,
Waiting in its wonted place,
Eyes of black and eyes of blue,
Merry songs and voices true,
'Neath the drooping mountain pine,
Waiting for the stroke of nine.

So I take the pail and book,
And I cross the laughing brook,
And I find the pleasant way
Sweet with breath of sunny May ;
Manzanita, pink and white,
With its urns of deep delight ;
Roses wild, whose tender blushes
Are as sunset's purple flushes ;
And the dogwood's blossoms large
Light the willow's dripping marge ;
And the redbud's leafless spray
Flames above the pebbles gray ;
Yellow violets, wee and bright,
Primly drink the sparkling light ;
Columbines their blasts are blowing,
And the wind is past me going.

Then the children run to meet me,
And with varied treasures greet me—
Petrifications, fossil shells,
Squirrels, snails, and wild blue-bells,
Curious leaves and spicy gums,
Doubtful words and conquered sums.
Soon the bell's accustomed din
Calls the laughers trooping in,
And the children's modest looks
Are bent wisely on their books.

Then the classes toe the line,
And the eyes excited shine,
And the questions ceaseless fly
As the birds in summer's sky—
Laughter, labor, work and play,

Fill the school-room's busy day.
When at last across the floor
Falls the shadow making four,
We are almost sure 'tis wrong ;
But we sing our evening song,
And we part beside the door
With our day of labor o'er.

DISCRIMINATION AGAINST PRIMARY SCHOOLS.

BY AGNES M. MANNING.

There is one demand on which all writers on teaching, especially primary teaching, are agreed. We all know the stereotyped demand. It is for talent of a superior order, tact, ability, patience, gentleness, strength, and the rare faculty of clearly imparting knowledge to little children. They expound to us in plain terms the hint that was given long ago in the Scriptures, that we must lay our foundation strongly if we hope to build well. They are eloquent on the fact that no after advantages can ever compensate for the bad habits that may be engendered in the first impressionable year of a school life.

And they are right, these theorists, in spite of their namby pamby folly that the love of the labor is its reward ; that a teacher ill-treated, ill-paid, over-worked, and unappreciated, must yet consider herself in the seventh heaven because she is obliged to take up a life of hard, often thankless, toil. They are right in this, that the position of all others requiring skill, power, the rapid mind to see, and the will to do, is of all places in our schools, chiefly necessary in the lower grades.

Reine, the heroine of Miss Thackeray's sweet little Norman story, would have suited the theorists. She combined gentleness and strength ; she would drive her grandfather with a scowl from the drinking table, and govern with strong but silken rule the children that clustered about her. I have known teachers like Reine—young

girls with whole families of little brothers and sisters depending on their scanty earnings, an invalid mother, a dead sister's or brother's orphans to support. They were always at their posts, early and late, sick or well. It is a pitiful sarcasm on the status of education and a city that pays its average policeman one hundred and twenty-five dollars a month and its average teacher seventy, to say that they could not afford to be sick, for no sooner did they sink in their ranks than an iron-clad rule deducted the slender salary.

The weak, or ignorant, or incompetent teacher is soon discovered by an energetic grammar class of boys or girls, overflowing with that animal life that is the healthiest sign of a vigorous youth. They literally make the place "too hot" for her ; and we all know of instances where, in spite of the protection of influential friends amongst directors, such teachers have been driven from positions to which they should never have been appointed. When such a teacher fails, however, the class is blamed. "It was a bad class," she vehemently asserts. "It was a bad class," cry her champions, amongst whom are Governors, Senators, and eminent lawyers ; for where is the poor teacher that is not surrounded by that Open Sesame of the San Francisco schools—"influence" ? I have known hundreds of classes, and I never yet saw an ill-acting one that was not demoralized by weak, incompetent government. These teachers with no *faculty* for their work have been everywhere, and at all times, bringing odium on a high and noble office. Rosa Bonheur caricaturing one with a scissors and paper, to the delight of the girls and her own ignominous expulsion ; Walter Scott, kept at the foot of his class, swelling with indignation ; Charlotte Bronte, tracing in the burning words of genius her scorn for another. Ah ! my fellow teachers, these "bad" children are often alive with soul, fire, character, and

fun, and it is only your "dull fool" that does not understand them.

Amongst the many remarkable feats of our Board of Education there has been none more remarkable, than that a *failure* in a grammar has almost always been transferred to a primary school. They have shown a fine contempt for the theorists by invariably placing the most inexperienced teachers in the lowest classes. They have discriminated against all primary teachers by a schedule of salaries that pays a premium on grammar classes, and naturally attracts the ambitious from the hard work and low salary to the easier and better paid higher grades.

The position of primary principal is another curious illustration of this discrimination. They are all paid alike. Those who have eight and those who have seventeen classes receive the same salary, although the grammar schools are paid in due ratio for their work. Our Boards have not only shown their faith in the claims of the strongest of all the strong-minded, but have gone beyond such claims, and always put the hardest work on the "weaker vessel"; for no primary school has ever had a vice-principal, or head assistant, or extra aid of any kind, although many of them contain from four to seven classes more than the average grammar school. Stirring appeals have been made by directors for men who had four classes more than their fellow principals; appeals which were justly successful, and more salary paid for extra work. No such demand was ever made by a director for a primary school, even when it was within his special jurisdiction, and had *eight* extra class-rooms instead of four.

Bad as matters are, they have been worse. Some years ago we had an absurd system of District Principalship, that was a relic of feudal barbarism in school management. By its rules the grammar master held sway over the nearest primary schools, and could

pull them to pieces whenever he pleased, to remodel or fill his own. The primary principal was under the most complete subjection to him, and woe betide her if she dared dispute his sovereign will. I remember one of these Solons coming one day to a certain school with fourteen dirty-looking, ill-kempt rag-a-muffins, of ages extending from twelve to sixteen. They were all without exception chewing gum or tobacco, and had evidently been culled from the worst "cases" of his school. The lady then threw open her class-rooms, where children were crowded upon the platforms, and showed that she had no possible accomodation for his undisciplined troop. He was furious. Turning to her, with a face purple with rage, he said: "In twenty-four hours I will have the *girls* of your school removed to make room for these *boys*!"

The system of pulling to pieces a primary school at any time of the year went on long after the district plan was abolished. I have sent over three hundred pupils out of mine to the grammar schools at the end of the regular yearly vacation in July, and in October a director has taken two full classes without an hour's notice, leaving us to fill our rooms as we best might. As he was chiefly interested in a boys' school, we thought that for the rest of the year at least we should be safe, the two next higher classes being composed of both sexes. Vain were these expectations. In a few weeks he came again, and taking the boys of both classes, put them together, and marched them off.

All teachers of experience know how much easier it is to go on with higher trained classes, than it is to take the raw element from the street, and make it up into good material. This is why, even at the same compensation, the large primaries would prefer to keep their classes: but when we come to consider that they are paid from thirty-five to fifty dollars a month

less, with no special aid, and all the inexperienced teachers, can we wonder that all of them who believe in their work are dis-satisfied? Many of our grammar schools are, in truth, nothing but average primaries with a veneering of grammar pupils; but they are, according to the "rules," allowed to take in any or all of the grades. The laws of the Medes and the Persians were not stricter, however, than these laws against the natural growth of the primaries. Occasionally some favorite of some strong director has suddenly been transformed into the full glory of a grammar school, but as a rule these instances have been rare; more often the place has been *made* under the pressure of political influence.

We have had most virtuous Boards of Education, who came in with the new brooms that were to sweep us all clean, but went out after two years leaving the dark spots all untouched. Is it strange that most of us have little faith in promises, and only a vague hope that sometime the local Hercules will come, with strength enough, honesty enough, manhood enough to sweep out the debris of injustice and petty wrong that litters this department?

COMPOSITION WRITING.

Why should this be the great bugbear of school life? Why is it the first article in the creed of every school-girl, and especially of every school-boy, to "hate compositions"? Mainly, we believe, from misconception of the object of the exercise. Children fancy—often with too much reason—that they are expected to produce literature! No wonder they revolt at such an absurd and impossible requirement. Let it be understood and emphasized that the object of composition writing, in all ordinary cases, is to train pupils in spelling, punctuation, the use of capitals and the art of expressing themselves in clear, co-

herent English, so that when they leave school they will be able to write a decent letter.

Now, if the teacher can write respectable English himself, we believe he need find no insuperable difficulty in training his scholars to do the same. If he cannot, he'd better stop teaching until he learns. One of our editors has hinted that to teach history properly, a man had better know something about it himself; but to teach composition writing *at all*, he *must* know how himself. Suppose this indispensable condition is supplied, how shall we proceed? If we have a class of children about ten years old, we can get very bright and fresh original work by giving them some subjects that will arouse their imaginations, and yet be within the range of their thoughts and experiences, as: "What I want Santa Claus to bring me," "What I would like to do in vacation," etc. In the case of the older scholars, who have acquired the conventional style and conventional dread of compositions, it is often best to require no original work at all. Let them take some stirring bit of poetry from their readers, and write a prose paraphrase of it, not too literal. Or read them some short, pointed anecdote, and let them write it from memory. Such exercises as these inflict no mental torture, and are just as valuable, for children, as composing original essays. In every case the exercises should be not only corrected by the teacher, but re-written by the pupil after correction, and again examined and marked by the teacher.

These suggestions, of course, are intended to apply to weekly or fortnightly exercises; but there is a more excellent way; one that gives five or ten times as much drill to the pupils, involves no outside work for the teacher, and gives better results in every way. A method, in short, that is wholly practicable, and gives something like an adequate drill in this difficult

and important branch of common-school education. Let every scholar old enough have a *daily* drill in compositions. Send the class in history, physics or descriptive geography, or any such study, to the board to write their lessons—without the book, of course—while you are hearing some other recitation. Then, when their time to recite comes, let teacher and class together thoroughly criticise the work of every one, not only on its accuracy as a recitation, but on spelling, punctuation, capital letters, and the construction of sentences. On this last point, attend not only to grammatical correctness, but to clearness, simplicity, and naturalness of expression. Then let every scholar return to the board and correct his exercise according to the new light he has received. The scholars will soon become very keen critics, not only of other's work, but their own. The teacher should lead them, both by precept and example, to make their corrections with all possible courtesy and kindness.

The most successful teachers we have ever known are those that pursue this method. *Their* scholars will never be disgraced in after life by their blundering letters.—*Iowa Normal Monthly.*

TEACHERS' OBSTACLES AND SOME OF THE BEST WAYS TO OVERCOME THEM.

BY Z. L. KAY.

At the Teachers' Institute, San Diego, Cal., November, 1877.

MR. PRESIDENT, LADIES AND GENTLEMEN : A grander moral object than that for which we have met never called true men and women together. It is founded on the axiom that the individual happiness and general prosperity of any country depend upon the intelligence and mental culture of its people. The promotion of the

physical comfort and general improvement of those amongst whom he labors, should be the chief aim of every true teacher.

In our grand mission of cultivating the minds and assisting in purifying the hearts of those who are to be the future men and women of our country, the obstacles which come in our way may be numbered as legion : a few of which we will endeavor, briefly, to notice.

1st. *Ignorance*.—Not so much of books, as of the ways, customs, and manner of thinking of the people amongst whom the teacher is to labor. Especially is this the case with beginners, who, hitherto, have lived in the ideal, but must now come forth to try their moral powers on the real difficulties of active life ; and—often fail.

This may be overcome by careful study, observation, and practice.

2nd. *Prejudice*.—In many parts of the country there is a prejudice against teachers, resulting from incompetency, failures, etc.

On taking charge of a school in such a locality, the teacher, by visiting the parents, securing their influence, sending them weekly or monthly reports of their children's progress, and such other means as may occur to his mind, may soon overcome this obstacle.

3rd. *Compensation*.—Will it pay ? is the universal question with Americans before engaging in any business—teaching not excepted. The low wages paid country teachers in some States, especially Iowa, are not sufficient to command the time and attention of persons of intelligence, taste, and energy longer than till they can find other employment. Consequently, many of the best teachers either forsake the profession or leave the State. Their places are filled by boys and girls, generally from the city, who want to try country life awhile, and who will teach for almost any price. At first some of the trustees are apt to congratulate themselves over their "good bar-

gain," but the time is quite likely to arrive when their tone will be changed. Often before the term has half expired, many of the pupils have left school, and others would gladly leave if their parents would permit. Why? Because their teacher, being quite incompetent, has either let them do as they pleased, until they are learning nothing, or else has so overburdened their minds in various ways as to disgust them with their books, their teacher, and all connected with the school; thus creating a prejudice in their minds against learning which it will take years to overcome.

The people think they are practicing economy when they hire this boy or girl at half-price; but when they find that their children have lost the season, and acquired no more than they could have learned under an able teacher in half the time, it will be seen to be a strange kind of economy indeed! Yet it is one of the obstacles which actually exist, especially in that State, and it acts as a damper on the energies of good teachers, by depriving them of the means of a respectable support, by hindering them from self-improvement, and thereby casting odium on the profession. Profession (?) Can that be called a profession in which nearly any school-boy or girl can engage at pleasure; and which is, consequently, at so low an ebb as to be looked upon with contempt by nearly half the people?

No wonder, then, that the best teachers in Iowa either go to the cities or leave the State. And no wonder that so many who have taught there, and in some other States, often fail to obtain certificates in California.

So long as men are willing to adopt the "penny-wise and pound-foolish" system, and pay as much for shoddy as they do for broadcloth, the wages of good teachers will be low, and there will be but few inducements for cultivating one's talents for

the profession; unless State Boards of Education interfere in the matter.

The wise provisions of the school laws of our own State in requiring experienced teachers for beginners, and in compelling trustees to pay them fair wages, have had a good effect; which may be seen by comparing the schools of California with those of Iowa, or any other State where a loose system of examinations and salaries prevails.

Yet the "hue and cry" against rigid examinations has been so great, that lately the standard has been much lowered, especially with regard to third grade certificates, which, by being made renewable without further study or trouble on the part of the holder, are at quite a premium. This removal of one of the most essential inducements to higher attainments, if permitted to remain in its present form, is quite likely to work injuriously to the cause of education.

If we aim at a high standard, although we do not attain it, we will at least secure a high degree of excellence; but if our standard is low, we should not expect fine results. Hence the State Board of Education in its rigid examinations was right, and should have received praise rather than censure.

4th. *School-houses*.—It would be almost impossible to teach a good school in a bear's den, yet in many parts of the country the school-houses are but little larger, and not much better lighted and ventilated than the abode bruin provides for his cubs. One of these (which we had the honor (?) of visiting) was built of a few poles set in the ground and covered with brush, adjoining an adobe hut inhabited by Mexicans. Another was in a nice grove, wherein sheep had been permitted to lie when school was not in session, until it might as well have been located in the midst of a sheep corral.

Some are poorly seated; others have

smoky stoves, or none at all, and leaky roofs. Some people seem to think that anything will do for beginners and small schools. Hence their carelessness.

A poor workman will often complain of his tools ; and it is difficult for a good workman to do a neat job with bad tools. How then can we expect children to accomplish success under such discouraging circumstances ?

You take a man's house when you take the prop which sustains his house ; you take his life when you take that which nourishes life ; so also you take his education, when you deprive him of all incentive to study.

A few years ago, amongst farmers, the hoe and sickle were thought the instruments of perfection ; but what sane man at the present day would send a hired hand into the field with such implements ?

If the farmer can afford the best implements and the most faithful hired men for his fields, is it reasonable to deny similar advantages to the cultivation of the minds of his sons and daughters ?

Which are the most noxious, the weeds in a man's corn-field or those in the minds of his children ?

Which are most important, fat hogs or well-bred children ?

What would a man take in exchange for an amiable, well-educated son or daughter ?

Yet (sad are we to say it) *some* men seem to act in these matters as though they thought more of their swine than of their children.

Let the teacher in such a district lay these matters faithfully before the people, offering his own assistance and asking theirs, and his school will soon be likely to have better accommodations.

5th. *Pupils*.—In our country schools the pupils are apt to be of all sizes and ages. To get them properly graded according to their several abilities is often

quite difficult. Tardiness, irregularity, noise, whispering, laughing, playing, idling, sleeping, inattention, stubbornness, rudeness, and various other evils are quite likely to be found to a greater or less extent in almost every school ; and often seriously interfere with the comfort of the teacher and the welfare of the scholars. Then to overcome these, and the stupidity connected with them, is the main point.

Now let us suppose we have an able teacher, a good school-house well furnished, and everything in good order. Of course the pupils will all behave well the first morning, but how long will they so continue ?

Right here is the most important question we have had, for on it depends the welfare of the entire school.

Provided the teacher thoroughly understands his business, has confidence in himself, ability, patience, tact, perseverance, determination, and energy, they will remain so during the term. Not long since it was a custom for the teacher to write a list of rules which none dared break under penalty of a flogging ; but happily, with most teachers and intelligent people, except in extreme cases, the rod and other relics of barbarism are numbered amongst the things that were but are not. Also, nearly all rules except such as are made as needed are discarded.

We are now in the school-room ; here are the children right from home, the rose of health blooming upon their cheeks, the fire of youth sparkling in their eyes, the blood of life coursing swiftly through their veins ; their minds all aglow with bright hopes of a joyous future, thirsting after useful knowledge, yet impatient of the restraint of arbitrary rules. Behold them ! with what a will they study their first lessons ! With what determination they force into their memories those dull, tedious words !

Right here, before they have had time to-

get weary and commence idling, the teacher possessing tact will stop them, and inquire into their motives, their objects, and intentions. He will lay before them, in plain, easy language, the beauties and honors of an education ; showing them that in this free and intelligent community where there are no privileged classes, but where every man finds his level, and may be called to fill important places of honor and trust in the community of which he is a member, it is not only the happy privilege but the imperative duty of every one to cultivate his mind, to improve his talents, and to rise above that petty horde of non-thinkers which infests most countries, and to acquire such a knowledge as will enable him to act with honor and diligence the part assigned him on the stage of life, and thus to make himself worthy to be called a free man, and to bear the proud name of American citizen : that we live in an age of great mental excitement ; that the public mind is awake, and society in general is fast rising in the scale of improvement, and that those who are too indolent or imbecile to keep up with the times will be left behind like drones in the community, dishonoring themselves and their parents, and casting odium on the district in which they live ; that it is knowledge which mainly distinguishes a man from a beast ; that it is knowledge and behavior which form the principal difference between men as they appear in the same society; between white men and Indians, between civilization and barbarism ; that the means of knowledge are most abundant ; that the road to wealth, to honor, to usefulness and happiness is open to all, and all who will may enter upon it with the almost certain prospect of success. Then applying his remarks to schools, he may readily draw their attention to the advantages of a quiet, attentive school, and the disadvantages of a boisterous one ; and close by submitting to their

decision, by vote, whether they will have whispering, laughing, playing, or any other annoyance in school or not.

He need not fear the result, for if these things have been presented in their true light they will be likely to vote unanimously to try to banish all annoyances from the school-room. Aye, they will not only vote for it, but if kept properly before their minds they will endeavor to suit their actions to their words, and labor for it.

Such a resolve, carried out in the spirit of kindness, patience, and forbearance, is worth infinitely more than all the harsh measures that ever disgraced the school-room. In days of prosperity, when all is going well, it will be an incentive to the achievement of nobler deeds ; in times of adversity, when the mind is weary, the hands hang down, and the heart is sad, it will be a sheet-anchor to keep them from drifting on the rocks of despair. * *

Now, suppose a class is called to recite. Every pupil has his lesson well. Shall we simply hear it and forget it ? If we pass it by and say no more about it, what encouragement will the child have to get it well again ?

Here is a register containing spaces for attendance, scholarship, and deportment ; also a couple of pages with the words ROLL OF HONOR printed at the top in nice large letters. Let the teacher explain these, showing that by them such an account may be kept that the parents or any who visit the school can see the good lessons recited by any pupil during the term, and each scholar will be ready to exclaim : "Keep a record ! We stand ready to pledge our endeavor to make that record as good as possible ! " .

Thus having secured the co-operation and expressed desire of the pupils, the teacher will keep an account, not only of the attendance, but of the lessons, words, and deeds of every pupil ; and at the close of each school month will transfer it, or

such part of it as may contain the names of those who have done well, to the roll of honor, placing the percentage of deportment on one side of the names and that of scholarship on the other. Next morning he will agreeably surprise them by presenting each whose name appears on the roll of honor with a nicely prepared report, containing his average scholarship and deportment.

Having gained confidence in themselves, nearly every one will be ready now to pledge anew his honor to try to make it still better next month, and to try to so act as to have as good a report as any other similar school in the country, to be compared at the next Teachers' Institute.

There may be those who will say: "This is a fine theory, but it requires too much labor to put it in practice. Parents, also, before they understand its effects sometimes object to losing so much time as it takes to grade the classes. Such objections forcibly recall to our minds the picture of the Pharisees of old, who were in the habit of straining at a gnat and swallowing a camel: for which is easier or less wearing on the mind of the teacher, an attentive school where all are quiet, or a boisterous school and poor lessons? And which will be more beneficial to the pupils, well-learned lessons and cheerful dispositions, or lessons glanced at and forgotten, and minds filled with evil thoughts and mischief? By keeping the records, although they *may* give the teacher one Saturday's arduous labor *extra* each month, he can have the former; by neglecting them, he can have the latter.

However good the intentions of children may be, it is natural for them to be lively and to forget themselves; hence there are likely to be times when some may be unruly.

The successful teacher will never permit a known fault to go unnoticed, yet he will not rudely and openly reprove a pupil,

thereby wounding his feelings and drawing the attention of the other pupils from their lessons; but he will quietly speak to him during recitation, or at some other time when it would not be likely to disturb the other pupils. While showing him a lesson or explaining something to him, the teacher, by appealing to his nobler nature, to his higher moral sense of honor to himself, his school-mates, and his parents, will gently reprove him of his fault.

Through such a course we have seen tears of conviction and penitence freely flow from the eyes of those who were in the habit of fighting the teacher and ruling the school for evil. From a single sentence kindly spoken we have seen tears involuntarily start, and the pledges of fidelity renewed, never again to be broken.

During those hours in the school-room, when the affections and mental powers can be moulded into any form by the plastic hands of love, then it is that the bent is taken for weal or woe which all future life cannot alter.

By going to nature we find rules for reading and speaking: so also, by following nature we find ways to govern the young. Is there an individual present, who, on looking back to the days of his childhood, cannot recall to mind the kind, loving, sorrowful tones and look of a mother when some petty wrong had been committed? Aye: it is not too much to say that all the binding sympathies of youth and swelling affections of manhood can be traced to their rise when standing at a teacher's or a mother's feet, and listening to a kind yet awful rebuke.

Then the teacher who desires to succeed well will endeavor to banish harsh words, looks, and deeds from the school-room, and by example as well as precept "let love through all his actions run, and all his words be mild." But there is danger of going to extremes, and being too easy. He should also be firm and determined.

To govern a school in such a manner requires twice as much patience, tact, and courage as it takes to govern through fear. But he who goes forward in the path of duty, regarding neither fear nor favor from any one will be quite sure to succeed.

Then,

Seek to make the school-room pleasant ;
Let it be a smiling place,
Where in peace each child may study,
Joys may beam in ev'ry face.

Where each heart may be contented,
Never wishing school to close,
Where the purest thoughts will linger,
Friendship, trust, and love repose.

Such a school makes life the better,
True and lasting its control ;
Ev'ry school in kindness governed
Leaves its impress on the soul.

THE ORIGIN OF SPELLING-BEES.

BY E. S. BROOKS.

[Recently discovered addenda to the Lost Tales of Miletus.]

To Jove, Olympus-throned, from lunch refraining—

Ambrosia o'er—Minerva came, complaining—
“My gracious Liege !” she said, “this is my mission,

To bring you to a sense of your position.

Your over-lenency, dyspepsia breeding,

Allows the gods too much of over-feeding,

By which their palates check their brains' progression,

And dull their intellects by retrogression.

And seeing this, O Jove, I crave permission

To counteract it by direct attrition ;

In order thus their intellects to strengthen,

Their minds to polish and their memories lengthen.”

Permission given, straight Minerva took Out of her pocket Webster's Spelling-book. Around the circle test-words quickly hied Which each immortal missed as soon as tried : On *trousseau* Juno weakened ; Mars on *foes* ; While pouting Venus came to grief through *beaux* ;

On *occult* Pluto ; Vulcan, on *crescendo* ; While graybeard Neptune caved on *innuendo* ;

One s in *messenger* gave Mercury trouble, And Ceres, weeping, bit the dust on *stubble* ; Apollo stoutly tried his luck on *rooster*, And then, appealing, said he spelled by Worcester ;

On which the Graces held, as referees, He was “so nice” he might spell as pleased. Jove, last of all, but than the rest no better, In spelling *empty* lost a needed letter.

Then the whole circle begged her to give o'er ; The gods all called her spelling-bee a bore.. The ladies said “blue-stockings” ! and a “fright !”

And the three Judges held such language—right. Pluto said, “Nervy, let's to Hades go, And try this latest torment down below.” Straightway Minerva rose, and closed her book, And round the circle cast a withering look : “Immortal Gods !” she cried, “henceforth the schools

Shall better call you all Immortal Fools ! Olympus,” here she wept, “ so glorious once, Is now fit only for the dullest dunce.

Down to the earth I'll go, and quickly mass The suffering nations in a spelling-class ; Thus I'll reform the world, and as for you, Degenerate Deities, for a while, adieu ! I shall return, and till that time—ah, well ! I'll leave Olympus for a little spell.” So saying, she turned, nor longer deigned to stay, But glided swiftly down the Milky Way.

Minerva thus her earthward journey took, And from her pocket drew her awful book. America soon gave the chance she sought, And a new “Battle of *Lexicon*” was fought ; Fierce grew the conflict, quick the test-words flew—

Ponderous six syllables and puzzlers too.

And thus we wrestle, while, serene and still, Minerva sits enthroned on Learning's Hill. And till she wearies, thus, I fear, shall we Still be a-spelling at a spelling-bee !

—*Scribner's Magazine.*

A movement of considerable strength is on foot for the purpose of securing the aid of the general government in establishing in each State and Territory an institution for the higher education of women. That there is need of such an institution, few can doubt.

**A YEAR'S EXPERIMENT IN
TEACHING.**

BY MRS. LOUISA P. HOPKINS.

I had the good fortune, at the opening of the last school-year, to receive a class of little girls, whose only previous school-training had been in a well-conducted kindergarten. Of course they were wide-awake, and fresh for study; they made about half of a class of girls, of from eight to fourteen years of age. We studied United States History, with Higginson's text-book, which we read, reviewed, and discussed, until I think they had quite a clear vision of the course of events in this country for two hundred years; certainly they were thoroughly interested in the subject, so that they listened eagerly to any additional details or accounts I could give them, reading three or four interesting books on the subject of the earlier history, and examining the pictures in Lossing's Field-books, and Catlin's "North American Indians"; they also read, of their own account, other fragmentary histories, or tales, in connection. We went through Dickens' "Child's History of England" in the same way, with a great many illustrations from various sources. We had the prominent points of Greek and Roman mythology in oral lessons, reading aloud most of the "The Age of Fable," of which excellent abstracts were written, *con amore*, making an exercise and study which proved most fascinating to them.

We reviewed Miss Hall's "Primary Geography," which had been read to them at the kindergarten, and with globe and photographic views kindled their interest to a flame, and passed on to the higher geography, which we prefaced with oral lessons in astronomy, and made our way nearly through the geography of the United States, committing the text to memory, and drawing maps, but occupying ourselves chiefly with imaginary travels and plays at

trade and commerce, until the unity and interchange of different localities and countries were well understood, and we found unfailing zeal and vivacity pervading the recitations.

Elementary grammar was evolved from their own unconscious knowledge of the language; and when their statements were put in systematic order on the blackboard, I showed them, to their surprise and delight, that they had already known all that was contained in "Greene's Introduction," and could parse any sentence not too complicated for their perfect comprehension. Who that had seen their enthusiastic joy at this discovery, could have remanded them back to the old tread-mill of grammar lessons? Dictation exercises and composition they became very fond of, under somewhat the same method of instruction.

Reading and spelling we kept up a constant exercise in, by every conceivable variation of means, especially dwelling upon exact enunciation, and natural expression; and we had weekly recitations in good poetry, which were attended to carefully, with some instruction in elocution.

As to mathematics, we had mental exercises as often as seemed advisable, but it was necessary to restrain their excitement by irregular attention to it, though they became very quick and skillful in rapid calculation. We studied numeration, including, of course, decimals, and addition, subtraction, multiplication, and division, applying these fundamental principles to parts of numbers, as well as to simple and denominate numbers, thereby covering the subjects of fractions, decimals, United States money, compound numbers, metric system, and simple algebraic quantities. We took up per centage, and some of its applications, where the close of the year left us, having treated the subject thus far as simply varied applications of the rules of numeration, addition, and subtraction, always deducing the rule from a clear com-

prehension of the method. I need not say that all thoroughly enjoyed the study, and are anxious to go on.

The spring or summer term we devoted to the study of nature. The children became quite familiar with "How Plants Grow," with which they reviewed botany, after oral lessons on Miss Youmans' plan, analyzing flowers readily, and enjoying much of the higher and more delightful developments of the study, which they remembered, after once learning : *e. g.*, the propagation of the orchid ; the properties of tendrils ; the multiplication of cells, etc.; for it is the opening of these intricate and beautiful vistas before them which most excites their thirst for investigation.

We studied the forest-trees of New England, through Mr. Emerson's book and by walks into the living woods, and examination of specimens. We absorbed all that "Morse's First Book of Zoölogy" could give us, also Mrs. Agassiz's little book on Sea-Shore Curiosities, besides reading works on land snails, butterflies, and other insects. We had oral lessons, well reviewed by written abstracts, and drawings from "Land and Game Birds of New England," so that summer found us with our arms stretched out, and our eyes and hearts and minds open to embrace her beauties of wood, and field, and sea-shore. Physiology was thoroughly studied as far as is usual in our high schools, and proved not at all above their comprehension and lively interest.

Drawing was practiced successfully under a special teacher, and some of the class developed a decided love and taste for it, making copies of flowers or animals which were quite worth mounting and using as gifts.

Besides these English branches, they all learned to talk French, with a charmingly pure and correct accent, under a native teacher, whose manner was most inspiring to the class. They went nearly through

Sauveur's "Causeries avec mes Enfants," and learned a few of Fontaine's fables by heart, conversing about them easily with their teacher. They could play a French game quite prettily and intelligibly, and learned by rote the auxiliary verbs and verbs of the conjugation. They studied German by much the same method, finally reading, with considerable ease and delight, "Grimm's Tales," in the original.

This is a careful, and not over-drawn summary of what was done from Sept. 15th to June 15th, inclusive, with a class averaging about ten years of age, with very little out-of-school study, and great enjoyment. Our promise for next year is to continue French, German, and drawing, commence Latin and general history, take up astronomy and uranography in oral lessons, and continue geography with Miss Hall's work, making it coincident in outline with our study of history, as was, I am told, Miss Hall's original plan for her book. We shall go as far with the details of grammar and the construction of the language as the interest and intelligence of the class can be led, and introduce them to the study of English literature. We shall continue mathematics, including arithmetic, algebra, and geometry, only as far as they can see the reason for the method of operation ; for I by no means agree with President Hill, in giving children rules to learn without the idea which informs them, or leading them blindfold, by painful steps, to the temple of learning. We shall pursue spelling, reading, and writing by constant but not tiresome drill, and, with oral lessons on various subjects bearing on their main studies, I hope to advance the class as much in love of study, desire to learn, development of their faculties, and attainment of knowledge, as I feel confident has been done in the past year.

I should not omit to say that no constraint of any kind was ever put upon the

children, to secure their effective attention and study, or for their good behavior ; no motive of emulation was introduced, to urge them on at the expense of their love for each other ; no rules of manner or morals were given them, except those they voluntarily deduced from what they saw to be the necessary conditions of attentive study, and good manners. I am free to say, in recommendation of this method of education, that it awakens and develops the mind and character, and stimulates the love of learning to an unusual degree ; and I cannot resist the conviction that to inspire the young with an enthusiastic desire to know all that God has offered to their comprehension, to give their powers full play in all these infinitely radiating channels of study, making learning a delight—in some cases almost an ecstasy—is more conformable to the plan of nature in the development of a child's being, than such a course of drudgery and return to the husks of educational training as President Hill recommends in a recent article.—*Primary Teacher.*

READING IN COMMON SCHOOLS.

BY J. M. GREGORY, LL.D.

Ought reading to be taught in our common schools ? Certainly, my friend. But what reading ? how much ? and how ? Let us consider the question without prejudice. In the common schools, as now managed, about one-half of the time is given to the reading lessons. A county superintendent of schools told the writer that in his county nearly two-thirds of the time in school is spent in the reading-classes. Is this necessary ? Is it profitable ? Is not this one of the thieves of our school system, which rob it of its fruitfulness, and bring upon it the too common reproach of poverty in results ? Let us look at it carefully but fearlessly.

Children must be taught to read printed books ; reading does not come by nature. But the vocabulary of little children is small, and to learn to read such books as they can understand, can be done usually in a few weeks. A term or two at most will be sufficient, if the children are of sufficient age. It should be done at home ; but as many parents have not the time, and fewer still the inclination, some of the children must evidently be taught to read in school. This is agreed.

But ought this teaching to go farther than the simple words and sentences which children easily understand ? Need the reading lessons drag on through term after term, and year after year, consuming half the school-life of the majority of our children ? Of what use those long series of reading books, filled with the mere fragments of literature ; or of those time-wasting reading lessons, in which each pupil reads a single short paragraph, and then stands idle for the next quarter or half-hour, it may be ? Occasionally a skillful teacher may make it a little better, and throw a little life into the tedious monotony ; but the teachers get tired of the well-thumbed pages and paragraphs as well as the children, and they let things go. Listen to the dreary droning of the "choice extracts," out of which both teachers and pupils have long ago chewed the last drop of sweetness !

A MORE EXCELLENT WAY.

The writer taught his own five children to read. The task was not a long nor difficult one ; it occupied a few of the odds and ends of time to be found in the busiest life. It was as good as play. Having read to the little one a few short stories to excite its curiosity, then, by the so-called word-method, it was taught some of the more common words, and shown how to find out others. The story books were then put into the little hands, and the work

went on of itself : no urging was needed—the charm of the story did the business. There was no foolish attempt to force the child to read what it did not understand. If the story was not interesting, it was remorselessly let alone, and a better one was found. Doubtless many a hard tussle was had with new words and big ones ; but the story could not be given up, and so the hard word was mastered. Sometimes the children came of their own accord to read me some amusing passage, and corrections were made in their pronunciation ; but nothing was forced. Their taste for books grew till they had to be restrained from reading too much, and thus injuring their health. Their knowledge of words steadily increased ; their intelligence was fed ; and before they went to school at all, they became better readers than any school-taught children of my acquaintance. They were not remarkable children. One of them learned with much difficulty, but once started in the story book, he became as fond of reading as the others. In the families of several of my acquaintances the same plan has been tried, and with the same result.

Let this method be tried in our common schools. Let a school be supplied with at least fifty dollars' worth of the brightest and best story books for children that can be found. Let two hours a day of the time now given to reading lessons be allowed to the children to read the story books, on condition that they first learn their lessons, if you will. Occasionally, let the child that has found something too interesting to be kept to itself, be permitted to read it aloud to the teacher or to the school. Lessons in articulation and in voice-culture may be given as such, at the proper time. They are not necessarily connected with reading lessons. The older pupils may also take lessons in elocution if the teacher knows how to teach it. Elocution belongs to speaking rather than to

reading. Let it be studied in its own place, and for its own uses.

THE ARGUMENT.

Our common-school studies miserably fail to make intelligent people. Arithmetic, grammar, and geography may help to discipline the mind, but they do not feed the intelligence. Our literature—our books—these are our true storehouses of knowledge. Books are the cheapest and best of all teachers to those who love them and can use them. A reading people can never be an ignorant people. The children who read stories will learn to love books. They will pass from stories to history, poetry, philosophy, science, and the whole round of learning, and especially if the other parts of their school work be well done.

The cost of the story books will be less than the prices of the discarded reading books. Economy is on the side of reform. The schools will gain in interest and fruitfulness. Dull intellects will awaken. Thoughts will kindle. Talk will be heard, full of imagination, reasoning, conjecture, and fruitful debate. The other lessons will be better learned, both because of the increased intelligence, and to win the time for more reading. Good readers will be multiplied. The terrible monotone will cease ; and our children, no longer spoiled by pretended reading lessons, will read as naturally, easily, and pleasantly as they talk.—*N. E. Journal of Education.*

THE Spelling Reform Association held its regular quarterly meeting for January in St. Louis. The "Program" embraced, "An Address on the Scope and Significance of the Spelling Reform," by Hon. Wm. T. Harris, Supt. of the Public Schools of St. Louis, and Vice-President of the Association. A paper, "On an Improved Alphabet," by T. R. Vickroy. A paper, "On a Diacritical Modification of the old Alphabet," by Jas. S. Stevenson. Reports and discussions.

EDITORIAL DEPARTMENT.

Elementary Technical Training.

The necessity for some well-devised system of practical instruction in connection with the free schools, is now recognized by the ablest thinkers. All who observe without prejudice, or reason without previous bias, concede the desirability of so training our youth in school that life may thereby find them the better prepared for its various activities.

The questions now simply are : Is any scheme of elementary technical training practicable ? Will it make our boys better workmen ? Will it not cost too much ? What class of schools will satisfy the popular demand for a more practical education ?

These questions are fully answered in an able report of Superintendent Wickersham, of Pennsylvania, an unquestionable authority, whose opportunities for observation are unsurpassed. We have space for only a few extracts ; and refer the reader to the January number of the *Pennsylvania School Journal* for the full report.

Superintendent Wickersham says :

Work-shop schools are needed at the present time only in our cities and large towns. To establish them, it will be necessary to provide suitable rooms for shops, tools, teachers, and courses of study. At first thought, it would seem that such additions would add largely to the expense of our system of public instruction ; but, upon consideration, it will be found that this need not be the case.

* * * * *

In the primary schools, or with young children, no special rooms or teachers are needed for industrial purposes. The drawing, modeling, sewing, etc., etc., can take place after the manner of a kindergarten, in the same rooms and under the same teachers provided for other exercises. The

introduction of work into a course of study, in even a primary school, would involve some changes in furniture, apparatus and teaching force, but none of these would be attended with much expense.

For grammar and high-school pupils, there would have to be provided either separate buildings to be used as workshops, or rooms in existing school-houses would have to be fitted up for the purpose. The latter mode would, in most cases, be the least expensive, for the rooms for work would then take the place of those now used for ordinary recitation purposes, and the instructors in the industrial department would simply step in where teachers, now employed, stepped out. The practical effect of such a change would not be to increase, materially, the expense of our schools, but to substitute work as a discipline, and manual skill as an end, in place of so much arithmetic, grammar, and other branches of an abstract character. While some classes would be in the shops at work, others would be in the recitation rooms reciting their lessons, and still others, perhaps, in the school-room engaged in study. Some of our high schools now have laboratories, in which classes of students, at stated times, make experiments in chemistry. A work-room of the kind now contemplated would bear a similar relation to the school.

The work done by pupils in the industrial departments of our schools, must be mainly disciplinary and artistic. The aim should be to form habits of industry, to create a taste for work and the ambition to excel in it, and to impart a degree of skill that may be turned to practical account, in learning trades, or in actual business. The work-shop schools of Europe, generally, make work for sale, and pay a portion of their expense in that way ; under the plan now contemplated this would, for the most part, be impracticable and undesirable. Provided with proper materials and tools, the pupils would commence and follow out a series of well-graded, logical

steps, toward the end desired to be reached. All the elementary operations essential in the working of wood, stone, iron, brass, etc., can thus be taught. This kind of work is an education in itself. For the purpose of giving a practical illustration of the proceeding, I take the following description of the organization of the vise-shop, for teaching the arts of chipping, filing, etc., at the Massachusetts Institute of Technology, from President Runkle's last report :

The shop contains four heavy benches, each eighteen feet long, three feet wide, and two and one-half feet high. To each bench eight vises are attached. It was supposed that one teacher could instruct thirty-two students at a time, and this has been found to be about the right number. At the beginning of the course it is quite enough, but later, when the students have acquired some skill and independence, a larger number might be successfully taught. As an experiment, we have adopted for this course thirty lessons, of four hours each, giving three lessons per week, which is certainly enough for the mechanical engineers, and probably, also for the class in the new "School of Mechanic Arts," at first called the new course in practical mechanism. At each vise there are four drawers, each large enough to hold all the tools needed by the students at one time; so that four sections, of thirty-two each, can take the course simultaneously. This shop has, then, a capacity for teaching the course to 128 students every ten weeks, and to 640 in a year of fifty weeks.

The next step was to devise the proper series of designs, to teach the use of the various forms of files and chipping-chisels used in any branch of the art, and with a range wide enough to cover all probable applications. At this stage, the services of an expert were needed, and we were most fortunate in finding in Mr. Valentine Walburg, a man who had spent twenty-five years in applying his art skill in various trades, and who had, moreover, the ability to comprehend the unity involved in the details, which he had spent so many years in applying. Each piece is designed to teach a definite idea, and to be put into the course when the student has acquired the requisite skill to work it. As the class system is to be followed, the element of time must be the same for all. The teacher is required to solve each piece in advance of the class, to find the time it will take, having also to settle clearly, in his own mind, the best method of solution, with the reasons why. At the beginning of a lesson, the teacher must be able to assign the time to be given to the class, to solve this piece, to show them what it is intended to teach, and to give them the method of solution, with the reasons therefor. These points settled, and all needed directions having been given, all proceed to do the same work, and the teacher's time and energies are all devoted in directing and watching its progress. When the assigned time has expired, all the pieces are called for inspection, in accordance with an analysis, which has previously been posted, assigning marks to each element for perfect workmanship. These marks add up one hundred, the same given for perfection in other studies.

The student, by carefully studying the analysis, is able to work, not at a venture, but with knowledge, for the highest marks; and thus his capacity to judge of the quality of work fully keeps pace with his ability to perform it.

We are thus developing the mechanical judgment of the student, by making, in advance, a careful study of the methods of solution, as well as the manual skill to perform and the ability to judge of the quality of work at the same time. The course in mechanical drawing, which keeps pace with the shop work, and the parallel lecture-room course upon the same art, with its application in construction, completes the instruction.

That so much skill of hand could be acquired in 120 hours' practice, has been quite as great a surprise to mechanics as to others, and I am glad to be able to say now, from our own experience, in which I am joined by all, with hardly an exception, that the system is a triumphant success.

A room for vise work is not more cheap-

ly provided, or the work itself more easily organized, than rooms and work in the other industrial departments that might be connected with a school, or a system of schools; and I am satisfied that as much real skill can be acquired in a well-managed work-shop school, in carpentering, cabinet-making, stone-cutting, printing, etc., etc., in six months, as can be acquired under the system of apprenticeship, as it at present exists, in two, perhaps in four years.

An experiment of a school for work, with children about the average age and requirements of those attending our secondary or grammar schools, was made by some gentlemen in Boston, in the winter of 1876-77. The room was fitted up with work-benches, giving each boy a space for work four feet in length and two and a half feet in width. Each bench was provided with a vise, with common wooden jaws and an iron screw, and a drawer, with lock and key, in which the tools were kept. Thirty-two boys, of from twelve to sixteen years of age, were admitted, and, as the school was open only in the evenings, some of them attended public school in the daytime. A course of twenty-four lessons in wood-carving was prepared, with special reference to securing the greatest amount of instruction with the least expenditure for tools and materials. The tools used were the flat chisel, the gouge, and the veining-tool, or small gouge. Smooth blocks of white wood, six inches long by two or three inches broad, and one and a half inches thick, were the material used for work. The course consisted of twenty-four lessons, intended to teach the elementary processes of wood-carving. "The object of the school," says the committee, in their report "was not to educate cabinet-makers, or artisans of any special name, but to give the boys an acquaintance with certain manipulations, which would be equally useful in many different trades. Instruction, not construction, was the purpose of the school. After the blocks were finished, they were placed in a rack, on one side of a room, and each boy's progress could be seen by consulting these specimens of his work. The blocks were prepared by the teachers before the school opened. If another term of instruction could have been given, the boys would have been taught to prepare the blocks themselves. Those of them who had been

trained in industrial drawing, in our common schools, were perfectly competent to make their own patterns. As an illustration of this, one of the teachers said that he took some of the patterns from the drawing-books of his own child, who was scholar in one of the public schools. Does not this incident show the natural sequence of such a course of hand-culture as we have been describing, upon the education in drawing now prevalent in our common schools?

"One such work school as we have described might furnish four hours' instruction every week for one hundred and ninety-two boys, or if evenings were added, for two hundred and eighty-eight boys. This is more than the number of pupils between the ages of twelve and sixteen, found in our grammar schools. We cannot but believe that it would be easy to establish, in connection with all our grammar schools for boys, an annex for elementary instruction in the use of the half-dozen universal tools, viz : the hammer, saw, plane, chisel, file and square. Three or four hours a week for one year, only of the grammar school course, would be enough to give the boys that intimacy with tools, and that encouragement to the inborn inclination to handicraft, and that guidance in its use, for want of which so many young men now drift into over-crowded and uncongenial occupations, or lapse into idleness or vice."

Boards of school directors have now, under our laws, full authority to establish these work-shop schools, and to do so seems to me to supply a much-needed want in our system of public instruction. Still, I do not urge action in such an important matter without due caution. Let some enterprising school board first make an experiment. The expense of this will be trifling. The experiment at Boston cost, all things included, less than \$800. If successful, something may grow out of it that we can engraft permanently upon our system of public schools.

It is known that there are now in this country a hundred or more Chinese young men and boys pursuing a course of thorough instruction at the expense of the government. Others are similarly engaged in different countries in Europe.

Business Announcements.

There is yet a small amount due us on account of subscriptions for the present volume. Will subscribers do us the favor to remit promptly? The money may be sent by registered letter, money order, or in the shape of postage stamps. The arrangements we are making to improve the JOURNAL, to extend its usefulness, and to give permanency to its efforts, necessitate a considerable outlay of capital; hence all money due us will be thankfully received.

We have not, thus far, said a word to urge subscribers to be prompt in remitting. In fact, we have found it unnecessary to do so. We hope to be pardoned for referring to the subject now; but the occasion is special. Our desire is earnest to increase the strength and value of the JOURNAL. We are waging a battle against the forces of ignorance and inefficiency, and the "sinews of war" are essential.

We shall regard all subscribers who are now on our list as desiring to renew their subscriptions for the coming year, unless we are notified by postal card or otherwise that they wish to stop the JOURNAL. All persons wishing to discontinue will please notify us promptly of their desire.

Announcements.

We have made arrangements with D. Hicks & Co., bookbinders, whereby the JOURNAL may be bound neatly in cloth at the rate of \$1.25 per volume. The cost of binding and postage both ways must be prepaid.

We can supply no numbers of the JOURNAL prior to Feb. 1st, 1878. After that date, however, we shall always have enough on hand to supply a reasonable demand.

We desire to establish permanent agencies in each county. Prompt application must be made. Where the party desiring an agency is unknown to us, references are required. Highly favorable terms will be

made with parties with whom we make permanent engagements.

Correspondence on subjects pertaining to education, educational intelligence, personals, etc., are respectfully requested from every part of the coast.

We desire to repeat, emphatically, that this Journal will represent equally and impartially, the interests of our schools, irrespective of location. This is not a San Francisco organ. It does not aim to reflect the personal views of the editor, or of any other individual. Its pages are open to all—no matter how diverse may be their opinions. Articles on methods of teaching are always in order: let live and original teachers assist their brethren.

Finally, subscriptions are never unwelcome. Every subscriber can easily procure a couple more. Do this, and the interest and value of the JOURNAL will be doubled.

The Journal for 1878.

THE PACIFIC SCHOOL AND HOME JOURNAL closes the first year of its existence under the brightest auspices. Begun as an experiment; the publisher unknown beyond a small circle of earnest and devoted friends; in a season of unusual prostration; obliged to encounter unexpected and annoying obstacles, it has, by adequately supplying an imperative need in our growing world of education, overcome all impediments, and won for itself a place in the educational literature of our country.

This Journal is an experiment no longer; we have become—what we aimed to be—the representative educational publication west of the Rocky Mountains; the organ of a profession as noble in its undertakings as it is unselfish in its performances. We do not intend to make any promises for the future; our past course of action—and we say it modestly—is our best guerdon.

Poetry finds loftiest expression in consecrated human life pure and noble in itself.

State Uniformity Again.

In answer to a general circular, we have received replies from some twenty State Superintendents, giving the law in their several States on the subject of text-books, and their views on uniformity. No State, east of Nevada, excepting Minnesota, has State uniformity; and in this State, so complete has been the failure of the recently enacted law, that it remains virtually a dead letter on the statute books.

In some States, the text-book question is in a chaotic state. There is not even district uniformity; different classes in the same school-building frequently use entirely unlike series of text-books on the same subjects. This is the case particularly in some of the Western States.

Uniformity would be an improvement in such cases, and so it is considered by teachers and parents.

But in all the replies received by us, but one takes ground in favor of State uniformity, viz.: the Superintendent of Arkansas. All arguments urged by us in previous numbers of the JOURNAL—cheapness, encouragement of business enterprise, discouragement of book monopolies—are given in these letters as reasons against State uniformity; and, in corroboration of the views expressed by us, that county uniformity, with all incorporated cities excepted, is the best system, both as regarded the interest of the people and the welfare of our schools. We give below two representative letters. In our next issue, we shall publish in full all received by us on the subject. They will form a valuable reference to educators on the Coast in regard to this question.

INDIANAPOLIS, IND., Jan. 16, 1878.

DEAR SIR: Your letter of Jan. 9, is just received. We reply thereto as follows:

1. We have no State uniformity in text-books.

2. The law requires county uniformity in all schools, except those of cities.

3. The system of county uniformity was adopted in 1873.

4. Under this law there seemed to be great activity among the book agents, as it is believed that there were more changes in text-books during the four years this law was in force than during any previous four years. In many cases, however, books were adopted, but not introduced.

5. I append what I said to the Legislature in 1875 in relation to this law.

"The Text-book Question."

"The design of this law was to secure a less frequent change of text-books, and county uniformity. The law has failed to accomplish either of these results. Frequent change of text-books is an evil that ought to be remedied. I think that this proposition needs no argument. I recommend, therefore, that the last clause of the law just quoted above be changed to read as follows: But no text-book adopted by the County Board shall be changed within six years from the date of such adoption, except by unanimous vote of all members of such Board; and all text-books adopted by the County Board shall be in exclusive use in all the schools of the county, except in cities and towns, within one year from the date of their adoption."

6. In 1877, the time within which books could not be changed was extended to six years. I am not really satisfied that the new law will bring relief.

Most of our book-makers print good books. It seems to me that it is not a question of publishers, but that it is a question of price. The price, as well as the quality, should enter into consideration when a book is adopted. If some arrangement could be made by which the 40 per cent. discount allowed by publishers to dealers could be saved to the children, I think the chief difficulty in the text-book question would be removed.

Books are not changed as frequently as most people suppose; but it is true that they have been costing too much. Let us have a healthy competition as to price rather than a contest as to which of a half-dozen excellent books shall be adopted.

Very respectfully,

JAMES H. SMART,
Supt. Pub. Inst.

NEW HAVEN, CONN., Jan. 18, 1878.

DEAR SIR: There has never been any attempt to have a uniform set of text-books throughout the State. The school authorities of each town decide this matter for the schools under their supervision. Under any possible system, there will be friction; but the present method is considered, on the whole, preferable to any State uniformity.

Yours, very truly,

JNO. W. BAIRD.

By order of the new Superintendent, "oral instruction" has been discontinued in the San Francisco schools. This includes the study of elementary physics and physiology, in the three higher grades of the grammar course.

We regret this action exceedingly. An earnest and even imperative demand on the part of the public called for some curtailment of the course of study in the public schools.

If this action is intended to satisfy the popular demand, it certainly fails. If this is the answer, then the wishes of the people have undeniably been misinterpreted.

We know everybody asks, and justly too, for fewer studies in our common schools. There is a decided reaction in favor of the "three R's."

The great body of the people want the least number of studies, and these of the most practical tendency.

Every child that, at the age of fourteen, leaves the public school should have some knowledge of physiology and hygiene.

It is an offense against public morality to send thousands of children forth into the world without any conception of those laws on which health, happiness, life itself depends.

The bearing of physics on the practical industries of life is certainly as great as geography, or history, or word analysis, or grammar. As a mental discipline, it is certainly not inferior.

To conclude, we believe that physics and physiology should be restored to their place

in the course of study. If cutting down be necessary, language, or geography, or history will bear the operation with decidedly less injury to the future welfare of our youth.

SOME speculative geniuses in Sacramento are trying to persuade legislators that it would be economy for the State to publish its own schoolbooks.

The State, they say, can do it more cheaply than private enterprise. Of course! Governments always do things more economically than individuals. Are not all our public buildings constructed at the least expense to the taxpayers? Does not the State make her boarding-houses at San Quentin, Folsom, Napa, etc., very remunerative? Her printing establishment, too, costs less than if the Superintendent were conducting it at his own risk and expense.

By all means let the State manufacture text-books. It is a proper part of her functions; and while she is actively engaged in business, would it not be well for her to make all other necessary articles of school use? Clothing, boots and shoes, for the children, might be manufactured, so as to cost parents next to nothing. Why not?

It seems to us that Californians do not know when they are thoroughly well off. There is not a State in the Union where so little money is spent for schoolbooks as in this. And the books may easily be improved without adding to the expense.

The people are getting alarmed at this constant tinkering with our schools by men, who, though they may be neither knaves nor fools, are certainly lacking in the normal amount of intelligence requisite for beneficent legislation.

THE public schools have taken deep root in the affections of Californians. This attachment makes any change or modification in the system the more difficult. Whenever an honest and intelligent at-

tempt is made to bring our schools to the standard required by the age, pedants and demagogues readily obtain followers in their resistance to educational progress. They sound the cry that innovation means injury to the free schools. Too many of the people believe them, and conservatism is the result.

With a large school fund and immense national resources, California's educational growth is not commensurate with her advantages. With a public school system but eight years old, England already surpasses us in the kind of education given the boys and girls of her middle and lower classes. Our schools compare not too favorably with those of Canada and Australia. In some respects we are behind Massachusetts, Pennsylvania, and other sister States.

The cause of this is too much conservatism. Eight or ten years have elapsed since any decided improvements have been made in our school law. Masterly inactivity is the order of the day. One would suppose, to observe the actions of our school authorities, every necessary improvement had already been engrafted on our system. And yet, we are certain that a general impression prevails that neither our schools nor our system is perfect. If so, in the name of common sense, ascertain thoughtfully the evils, and apply fearlessly the remedy.

DEPUTY SUPERINTENDENT JEANNE C. CARR informs us that scarcely a day passes without bringing to the State office anxious inquiries regarding the school bills before the Legislature. Teachers and friends of education are in constant fear that some mischievous and demoralizing changes will be introduced into our school system. This feeling is a sad commentary on the estimation in which the average legislator is held by the most intelligent classes of the community. In this case, however, we

believe any alarm unnecessary, as we have every confidence in the integrity and good sense of a majority of our legislators. We believe there is not the slightest danger of the passage of such absurd measures as are proposed in Barstow's or in Tuttle's bills. However, as "eternal vigilance is the price of liberty," so it behooves the friends of our schools to be constantly on the alert to circumvent the thousand-and-one enemies of educational progress.

OUR thanks are due Prof. W. W. Anderson, Principal of the Santa Cruz High School, and to Prof. A. W. Oliver, Principal of the Gilroy Schools, for lists of subscribers from their several jurisdictions. Prof. Oliver has secured us the names of all the teachers in his department. J. R. Williamson, of Lander County, Nevada, is also cordially thanked for his good opinion of the JOURNAL, and for the substantial manner in which he and his teachers have expressed the same. Principals and Superintendents are earnestly requested to "keep the ball rolling." Let all old subscriptions be renewed, and send us new ones promptly. We shall not be satisfied until we have every good teacher on the Pacific Coast on our subscription list. Then, come one, come all.

WHY should teachers reject text-books, if the latter are good? For our part we fail to see that a good text-book is an obstacle to proper training. Quite the contrary. We have no quarrel with good books. They contain the theory and experience of the ablest education in a crystallized form. What harm they can do the learner, we cannot see. Some teachers seem to object to a pupil's expressing himself in the words of a text-book. What matters it, say we? If the words of the book are exact, accurate, and fully indicate the idea sought to be expressed, will it do the learner any harm to make those words

his own. At least, will it be as injurious, mentally, as to favor the vague, loose style of answer so prevalent where "oral instruction" is the teacher's hobby?

GENERAL NOTES.

DON CARLOS the Spanish Pretender, says of city 'lady' teachers, 47 3-11 per cent of the whole are handsome; but among country teachers, the percentage of beauty is 48 5-13.

We cannot have gymnastic exercises in our present buildings and location without incurring an expense which the city seems unwilling to assume. Permit me to utter my most respectful protest against shutting up in the very heart of a city, for nearly five hours a day, nearly a thousand boys, brimful of activity and buoyant spirits, where there is no accessible play-ground, and a yard hardly large enough to contain the boys when in a state of rest.—*Head Master of Boston Latin School.*

Prof. Minns, of Concord, Mass., furnishes us the following interesting notes.

"MISS MARIA MITCHEL AT THE BOSTON UNIVERSITY.—Maria Mitchell, Professor of Astronomy at Vassar College, recently gave what she called a gossip lecture to the young women students of the Boston University. The gossip was of a charming character, being a lively description of a visit in the family of the astronomer, Sir John Herschel. Besides personal details, it included a sketch of the mental characteristics of this remarkable family of astronomers—Sir William Herschel, his sister Caroline, and his son, Sir John—as well as a brief resumé of their contributions to scientific knowledge by way of discovery and investigation. The good sense and fine wit of the speaker found in these materials abundant opportunities for pointing a lesson and inviting diligence in

the acquisition of sound knowledge. It was a notable sight, this white-haired, noble-browed woman, whose scientific attainments have been recognized by the learned of both hemispheres, surrounded by a group of thirty or forty fresh, eager girls, who are standing on the threshold, preparing to follow similar pursuits. In such a presence every sense and faculty is inspired to its best development—the ingenuous listener is uplifted, the critic is silenced."

From Washington I was transferred to Cambridge College. I will say that though the teachers did not teach me much, I learned a great deal. I think in this a good rule is seen, not to drive a person who is not disposed to learn certain studies which he cannot comprehend, but leave him to take his own choice of studies which he can comprehend. I do not believe in the possibility of drilling classes as you drill soldiers. The true mode of teaching, in my humble opinion, is, as far as it is practicable, for the teachers themselves to apply to each individual those elements by which he can himself carry on with success studies which interest him.—*Charles Francis Adams' address before the Alumni Association Boston Latin School.*

"BOSTON PUBLIC SCHOOLS.—The whole number of children in the city between five and fifteen years of age is 58,034; average whole number of pupils belonging to day and evening schools of all grades is 50,567; whole number of teachers, 1256. The schools are, 1 normal school, 8 high schools, 49 grammar schools, 404 primary schools, 1 school for deaf mutes, 1 high and 16 elementary evening schools, 5 evening drawing schools, and 1 kindergarten school. Total expenditures for all school purposes during the last financial year were \$1,816,915.49. Teachers' salaries were reduced 7½ per cent.

\$350,000 were appropriated for the erection of a building for the high and Latin schools. This appropriation covers only the cost of the building, and an additional sum will be required for furniture and apparatus."

A BILL has been introduced in the Senate by Mr. Hoar, of Massachusetts, to establish an educational fund, and apply the proceeds of the public lands to the education of the people. This proposes that the net proceeds of the public lands, the net proceeds of patents, and all sums hereafter repaid to the United States by railroad corporations, either as principal or interest, upon any loans of money or credit, or bonds loaned to them or paid for their use, or guaranteed for them by the United States, shall be set apart for the education of the people. Also, any sums which may be given to the United States for that purpose by will or otherwise. This is to be called THE NATIONAL EDUCATIONAL FUND. It shall be apportioned upon the basis of population of the said States and Territories, between the ages of four and twenty-one years, but for the first ten years the distribution shall be made according to the ratio of the illiteracy of their respective population. Any State may apply to the maintenance of one or more schools for the instruction of teachers of common schools, a sum not exceeding fifty per cent. of the amount received from the United States by any State or Territory, or District of Columbia, the first year of such receipt by it; after the first year, a sum not exceeding ten per cent. of the amount received, said sum, after the first year, to be apportioned wholly to the payment of teachers of such schools.—*New York School Journal.*

SCIENCE has opened a possibility wonderful and startling. Could we now seat ourselves in church or lecture-room, and listen to the very words and tones by which,

decades and even centuries ago, eloquent preachers and orators thrilled their audiences, we might fancy an era of miracles had returned. But such an actual reproduction of speech is promised for the pleasure and benefit of posterity. Music, also, may be crystallized, it is said. And fifty or five hundred years hence the children's children of the present generation, or whoever may then survive, may listen to the orators and vocalists of to-day just as if they were present. Such is the promised result of a recent invention of Mr. Thomas A. Edison. Without entering into details, it may be stated that the general idea of the inventor seems to be to cause the telephone to record the vibrations of the voice upon a continuous fillet of paper. This indented paper is then passed through a reproducer furnished with a very delicate diaphragm, thus producing in the diaphragm the original motion, and thereby rendering the sounds again audible. Indefinite repetition becomes possible; and, by passing the strip of paper under the reproducer, the same sound may be heard a year or a century hence. This wonderful invention is scarcely fledged. Some difficulties naturally have arisen. But Mr. Edison predicts that the apparatus will be in practical operation within a year.—*Harper's Bazaar.*

NATIONAL EDUCATIONAL ASSOCIATION.

Department of Superintendence.

We are indebted to the courtesy of the Hon. J. P. Wickersham for the following interesting report of the meeting of the "Department of Superintendence, National Educational Association," held at Washington, D. C., on the 11th, 12th, and 13th of December last. We have taken the liberty to abbreviate the report furnished us, though the main details are given.

About one-half of the States were represented by their State school officers, and Superintendents were present from a number of cities and counties. Besides these, the several sessions of

the meeting were attended by many Government officials, including the President, members of Congress, members of the Boards of Education, teachers, and citizens. A more earnest body of educators has probably never assembled in this country, and we are glad the proceedings in detail will be published in circular form by the Bureau of Education.

THE OPENING EXERCISES.

The President, Dr. J. P. Wickersham, Superintendent of schools in Pennsylvania, made a few inaugural remarks, after which Messrs. Wilson, of Washington, Smart, of Indiana, and Newell, of Maryland, were appointed an executive committee to arrange the business for the various sessions.

The proper representation of the educational interests of the country at the Paris Exposition was then discussed. The President being called on by the meeting, spoke at some length on the subject.

On motion of Gen. Eaton, United States Commissioner of Education, a committee of five, consisting of the President, Messrs. Apgar, New Jersey; Hancock, Ohio; Lemmon, Kansas; and Gilmour, New York, was charged with the subject under consideration. Messrs. Eaton, Pendleton, Virginia, and Runkle, Massachusetts, were appointed a committee to whom the duty was assigned of inviting the President of the United States, the Secretary of the Interior, the District Commissioners, and the Committee on Education in the Senate and House to be present at the meetings of the Department. Messrs. Henkle, Ohio; Orr, Georgia; and Jones, of Pennsylvania, were appointed a committee on resolutions.

The subject of the best school organization for a State was then discussed, Mr. Hancock, of Ohio, opening the debate. Messrs. Barringer, New Jersey; Harvey, West Virginia; Wickersham, Pennsylvania; Apgar, New Jersey; Gilmour, New York; Lemmon, Kansas; and Jilson, South Carolina, followed, for the most part explaining and defending the systems employed in their respective States. A great diversity of methods in the appointment or election of boards, superintendents, etc., was developed, and many conflicting opinions as to the best plan to be adopted were expressed. The matter was referred to a special committee, consisting of Messrs. Hancock, Ohio; Smart, Indiana; and Wickersham, Pennsylvania.

A report was received from the Executive Committee, recommending the appointment of a committee on legislation in respect to the support of the National Bureau of Education, National Educational Museum, and a national educational fund, consisting of Messrs. Newell, Maryland; Wickersham, Pennsylvania; Orr, Georgia; Bowman, Kentucky; Hancock, Ohio; Tarbell, Michigan; Lemmon, Kansas; Gilmour, New York; and Smart, Indiana. The report was adopted.

Senator Burnside, Rhode Island; Representatives Loring, Massachusetts, and Willets, Michigan; Mr. Hitz, the Consul-General of Switzer-

land, and Dr. Barnard, Connecticut, were present during part of the session, and addressed the assemblage.

At 2 P. M. the meeting adjourned to meet at 7.30 in the evening.

EVENING SESSION.

The convention was called to order at 7.30 by the President, J. P. Wickersham, who announced that the business of the evening would be the reading of an essay by the United States Commissioner of Education, on "What has been done by the General Government in aid of Education?" after which the discussion of the subject would be invited.

Gen. John Eaton, who was received with applause, then proceeded to read a paper, extracts from which will be given in the next number of the JOURNAL.

Among other things, Gen. Eaton said it was a singular fact, and one which was significant in the present crisis, that no great progress has been made toward education without Government aid, consequently the legislatures owe it to the people to provide the necessary means to educate their masses. He went on to say that Congress should not refuse to grant to the old States a fair share of the public lands for educational purposes. In reviewing the later progress of the great cause, he pointed out the influence of the slave-owning element in the South, previous to the war, and that of the liberated but nearly totally unproductive negroes, afterward, in retarding educational progress. It was not, he said, his intention to advise that Congress be pressed in any special direction in this matter, but only to point out the manifold advantages held out by a higher education. He described in detail the work of the Educational Bureau, but said that pecuniary aid was necessary. In reference to the mode of applying aid, he mentioned that of the trustees of the Peabody fund, who add to the amount which the people themselves raise; and in that manner, by the distribution of, say \$1,000 a year, they secure the local expenditure of \$7,000 for educational purposes.

In inviting discussion, the President alluded to the several bills now before Congress to provide aid for education, which propose to draw the funds from the proceeds of public lands, patents, and the returns made by railroads respectively.

Dr. Orr, of Georgia, said that the educational difficulties of the Southern States were very peculiar. In Georgia, at the conclusion of the war, a great problem confronted them. The ratable value of property in the State was, in 1860, over sixty millions. After the war it was one hundred and seventy millions, and, at the last valuation, two hundred and seventy millions. The war also brought a large number of colored children on their hands to be educated, belonging to parents who paid no taxes. They make no useless regrets over the past, but are determined to do even-handed justice to the whole people—a simple act of justice to aid the South in carrying the burden of the helpless colored population. In several States a majority of the

voters cannot read their ballots. The District of Columbia has special claims on Congress. The permanent residents should not be taxed to provide schools for the children of the floating population. He made a calculation in 1875, and found that forty per cent. of the voters in Georgia could not read their ballots.

Mr. Philbrick, of Boston, said there was but one opinion in Massachusetts, and that was thoroughly in favor of Government aid.

Dr. Bowman, of Kentucky, hoped the able and exhaustive paper of the honorable Commissioner would be published.

Dr. Loring, of the Massachusetts delegation to Congress, made an eloquent appeal for unity of action in this matter.

D. Henderson, of Kentucky, stated the details of a plan he had organized in his own State for the education of the colored children, and said that if aid was granted in his State it would be applied to the colored schools until they stood on a level with the white children.

SECOND DAY.

The attendance was about the same as on the preceding day. After the meeting was called to order, the committee on the representation of our educational interests at the Paris exposition reported, through its chairman, Mr. Wickersham, the advisability of requesting the President of the United States to appoint, as one of the paid commissioners, a competent scientific expert in matters of education, to organize and take charge of the educational exhibit of the United States, and also to appoint a fair proportion of the honorary commissioners with reference to this purpose. The report also recommended that an effort be made to obtain a fair share of the Congressional appropriation for this purpose, and suggested that if the measures above indicated should fail, no creditable educational display could be made at the exhibition.

Dr. Loring then delivered an address on the subject of the "Aim of American Education."

Gen. Garfield then addressed the meeting in his usual eloquent manner, and was listened to with the most absorbed attention. He referred to the great educational case of brains against brick and mortar. The two great defects of the modern system of school education are the cultivation of buildings to the detriment of brains, and the over-cramming of the pupil with numerous studies. The fact that the number of failures to enter West Point was increasing yearly should be met and explained by educators. No subject is of greater national importance than that of education. If ever the United States should escape the fate predicted by Macaulay, it would be through the efforts of the schoolmaster.

Mr. Philbrick, of Massachusetts, made a vigorous defense of the present school system, and suggested that the trouble at West Point was in the old-fogeyism of the examiners, and not in those examined.

Mr. Hancock, of Ohio, continued on the side of the present system, and said the aim of teachers to-day was to make their pupils cultivated

men and women, and not to fit them to pass the examination at West Point.

Mr. Holbrook, of New Jersey, upheld Mr. Philbrick in his views.

The President, Dr. Wickersham, solved the West Point problem. The grade of examination has been raised, and the system of election is vicious. The politicians use the nominations to West Point to pay their political debts. He illustrated and enforced his views by a recital of his experience in his own State, where nominees, as the result of competitive examinations, have always passed and stood high in their classes, while persons nominated on political grounds have generally failed.

An elaborate defense of high schools, by Mr. Dickinson, Massachusetts, and a resolution on the subject by Mr. Hovey, brought the morning session to a close.

AFTERNOON MEETING.

In the afternoon the large audience-room of the church was completely filled with the teachers and advanced scholars of the public schools, to listen to addresses by Prof. Ellis A. Apgar, Superintendent of Instruction, Trenton, N. J., and Prof. Dickinson, of Massachusetts, on Practical Education.

AT THE WHITE HOUSE.

At the close of the morning session the members called in a body at the White House. President and Mrs. Hayes received them in the East Room. Mr. J. P. Wickersham, in behalf of the Department, expressed satisfaction at the educational passages in the President's annual message. In his reply, the President promised to aid them in their great work by every means that lay in his power.

EVENING SESSION.

The meeting was called to order by President Wickersham, who introduced Dr. Runkle, President of the Massachusetts Institute of Technology, at Boston, as the lecturer of the evening. His subject was "Industrial Education," to which, he said, little attention was paid prior to 1862. He defined industrial education to be such as fits a person for some special industry. [President Hayes here entered and took a seat on the platform, amid applause.] He said this involved a training of the mind and the hand. To illustrate the practicability of this, he exhibited some of the products of the "Whittling School," of Boston, with the tools used, and described the method of instruction pursued. The same was done with regard to the shop or school for "vise-work," the set of tools used being shown, and a list of the trades into which such work enters: instruction in the forging was next treated of, as was foundry work and machine tooling.

Dr. Runkle then proceeded to show how these branches could be taught in connection with our common schools. He said the master workman of the school at Boston was confident that he could teach these processes readily to boys of twelve or fourteen years of age. To the objections that it would be expensive, he replied that

it was not so expensive as ignorance. He claimed that its introduction could be justified on purely educational grounds, and for the vast power that it would confer upon the country. He thought it would tend to solve the great labor problem. The method he had described was the one pursued in Russia, which had recently donated a set of models from the Imperial school at Moscow.

At the close of the lecture, a general discussion took place, of the methods of carrying out the system in connection with our common schools.

THIRD DAY.

The forenoon of the third day was spent in presenting to several committees of Congress the views of the Department on a number of educational questions of a national character. These were well received, and there seems to be a disposition among Congressmen generally to deal fairly by the educational interests of the country.

AFTERNOON SESSIONS.

The Department assembled at 12 o'clock. Mr. Smart, from the committee on the best form of school organization for a State, gave an abstract of the report which will be presented by the committee at the meeting of the General National Association next summer.

A discussion on the subject of high schools was then ably opened by Mr. Smart, of Indiana. He stated, that through investigations in his own State he had found that more than fifty per cent. of the persons, papers, etc., consulted by him were in favor of high schools; of the remainder, nineteen per cent. were undecided. He replied consecutively to the numerous objections urged against high schools, arguing that they were all without weight. General discussion followed, developing a great diversity of opinion on the subject.

The matter was referred to the President of the General Association, to be presented for further consideration.

Hon. G. J. Orr, Superintendent of Public Instruction of the State of Georgia, gave an admirable account of the condition of education in the South.

The Consul-General of Switzerland presented through the President of the Department to the Bureau of Education a fine portrait of the great Swiss teacher, Pestalozzi.

A series of appropriate resolutions was then read by Mr. Henkle, of Ohio, chairman of the committee, and adopted; when, after disposing of some miscellaneous business, the Department adjourned *sine die*.

One of the largest chemical works in Germany employs six resident chemists with yearly salaries varying from \$1,500 to \$2,500, and also engages the services of a celebrated chemist exclusively for theoretical work, paying him nearly \$10,000 a year.

SCHOOL BILLS BEFORE THE LEGISLATURE.

AN ACT

Introduced in the Senate by Mr. McGarvey, entitled : To amend Sec. 1560, and to repeal Sec. 1561 of the Political Code, relating to County Institutes.

The People of the State of California, represented in Senate and Assembly, do enact as follows

SEC. 1. Sec. 1560 of the Political Code is amended to read as follows :

Sec. 1560. Whenever the number of public schools taught in any county of this State is seventy-five or more, the County Superintendent must hold at least one Teachers' Institute in each year, and every teacher employed in teaching a public school in the county must attend such Institute, and participate in its proceedings.

SEC. 2. Sec. 1561 of the Political Code is hereby repealed.

The provisions of this bill are extremely mischievous. County Institutes are comparatively of the most benefit in the smaller counties. Here is found the greatest proportion of teachers who have never enjoyed the advantages of normal training ; the yearly institute to some extent supplies this deficiency, and teachers perform their work more intelligently and to better advantage after attending these yearly meetings. The proper course to take would be to lengthen the session, not to abolish it. We know we represent the wishes of the Superintendents and teachers in the smaller counties of the State in these suggestions. We trust the State Superintendent of Public Instruction will attend to this matter, and exert the influence of his office against any such measure as is proposed in this bill. It is certainly decidedly inimical to the best interests of the schools of California.

Another, introduced by Mr. McGarvey, is entitled

AN ACT

To amend certain sections of the Political Code, and to repeal other sections of same code.

The People of the State of California, represented in Senate and Assembly, do enact as follows.

SEC. 1. Sec. 1744 is amended so as to read as follows :

Sec. 1744. The Board has power to grant life diplomas, and to review, on appeal, an order revoking a county or city certificate.

SEC. 2. Sec. 1771 is amended so as to read as follows :

Sec. 1771. The County Board of Examination has power to grant certificates of three grades.

First—County certificates, first grade, authorizing the holder to teach a grammar school, or a school of the first grade in the county.

Second—County certificates, second grade, authorizing the holder to teach a second grade school in the county.

Third—County certificates, third grade, authorizing the holder to teach a third grade school in the county.

Fourth—The Board may also grant to the holders of certificates granted by the Boards of Examination of the various counties of this State, certificates of like grade and standing as those held by such applicants, without examination.

Fifth—All certificates issued since the first day of January, 1872, or hereafter issued, shall be valid during good behavior, provided that the Board may revoke any county certificate for immoral or unprofessional conduct.

SEC. 3. Sec. 1753 and Sec. 1775 are hereby repealed.

SEC. 4. This Act shall take effect from and after its passage.

This act meets the approval of all teachers with whom we have consulted.

AN ACT

Introduced in the Assembly by Mr. May, entitled : To amend an Act to establish and define the powers and duties of the Board of Education of the City and County of San Francisco, approved April 27th, 1863.

The People of the State of California, represented in Senate and Assembly, do enact as follows.

SEC. 1. Sec. 9 of said Act is hereby amended so as to read :

Sec. 9. The Superintendent of Public Schools of the City and County of San Francisco is hereby declared and constituted ex-officio a member of the Board of Education, with the right to vote.

SEC. 2. This Act shall take effect and be in force from and after its passage, and all Acts inconsistent therewith are hereby repealed.

This bill was recommended for passage by every member of the San Francisco Board of Education. Five members refused to endorse it. We agree with the five. The bill is wrong in principle—opposed to the spirit, if not to the letter, of both our State and our Federal Constitution. The Superintendent is an exec-

utive officer ; consequently, he is entitled to exercise no legislative functions. This is strict constitutional law : how a Democratic legislature can go behind it, we are unable to see ; at all events, no such precedent can prove stable.

AN ACT,

Introduced in the Assembly by Mr. Barstow, entitled, To amend an Act entitled an Act to provide for the support of the common schools of the City and County of San Francisco, and to define the powers and duties of the Board of Education thereof, approved April 1st, 1872.

The People of the State of California, represented in Senate and Assembly, do enact as follows.

SEC. 1. Sec. 17 of said Act is hereby amended so as to read as follows :

Sec. 17. All officers and teachers employed by and receiving a salary from the Board of Education shall be residents of the City and County of San Francisco. And no person receiving a salary from said Board of Education shall be interested in any contract, payments under which are to be made in whole or in part of the moneys derived from the school fund, or raised by taxation for the support of public schools.

There are a few score teachers who prefer Oakland as a place of residence, and San Francisco as a place for business. Mr. Barstow evidently thinks that the interests of San Francisco and Oakland are so antagonistic that it will not do for San Francisco to give the sister city any undue advantage. We do not agree with him. The whole subject, to our mind, is too puerile for legislation.

Mr. Grove L. Johnson, of Sacramento, introduced in the Assembly the following bill.

The People of the State of California, represented in Senate and Assembly, do enact as follows.

SEC. 1. Subdivision third of Sec. 1617 is hereby amended so as to read as follows :

Sec. 1617. *Third*—To purchase text-books, school furniture, and apparatus ; and such other things as may be necessary for the use of schools, and make rules and regulations for the use, care and preservation of the same.

SEC. 2. Sec. 1620 is hereby amended so as to read as follows :

Sec. 1620. Text-books, writing and drawing paper, pens, ink, and lead and slate pencils, for the use of the schools, must be furnished under the direction of the Board of Education and Trustees, and charges therefor must be audited

and paid as other claims against the School Fund of their districts are audited and paid.

SEC. 3. Sec. 1712 is hereby amended so as to read as follows :

Sec. 1712. The Boards of Education and of Trustees may expend the Library Fund, together with such moneys as may be added thereto by donation, in the purchase of school apparatus, and books for a school library, or for text-books, or for any two or all of these purposes.

SEC. 4. Sec. 1634 is hereby amended so as to read as follows :

Sec. 1634. It is the duty of the County Assessor :

First—To annually, in the months of April, May, and June, take a census of all the children, in the various districts in his county, under seventeen years of age.

Second—To report the result of his labors to the County Superintendent, (or the Board of Education in cities) before the first day of July in each year.

Third—He shall visit each habitation, house, residence, domicile, or other place of abode in his county, and, by actual observation and interrogation, enumerate the census children of the same.

SEC. 5. Sec. 1639 is hereby amended so as to read as follows :

Sec. 1639. The compensation for taking the school census must be audited and paid out of the unapportioned School Fund, and shall not exceed an amount equal to five cents for each census child.

SEC. 6. Subdivision fifth of Sec. 1521 is hereby amended so as to read as follows :

Sec. 1521. *Fifth*—To prescribe and enforce the use of a uniform series of text-books in the public schools, excepting in the City and County of San Francisco ; *provided*, that except in reading, no more than one text-book on any one study shall be prescribed or used at the same time.

This is, we believe, the best bill which has, thus far, been introduced in either house of this Legislature. It is comprehensive, definite, and eminently sensible. It does not destroy the fair fabric which able and devoted educators have raised in this State as a shrine for popular education. Mr. Johnson evidently believes that our public school system is good enough to let alone ; that all it needs to grow on in usefulness and influence, is to lodge more power in the hands of those who are at the head—the State Board of Education.

This law provides for free text-books. Though we have not heretofore favored this system, yet we know it has worked so well in many Eastern cities, that we favor

giving it a trial here. It is said to be inexpensive, and satisfactory in every particular.

The last three or four sections are, we think, injudicious. The census as now taken is quite accurate. It generally gives employment to teachers during their long summer vacation, at rates as inexpensive as are proposed in the bill. The salaries of most teachers are scanty enough, so we favor an increase by all legitimate means.

COUNTY INSTITUTES.

TEHAMA COUNTY.

The Tehama teachers gathered in goodly numbers at Red Bluff, about January 1st, for their annual institute. Superintendent E. S. Campbell, who has been recently re-elected to the superintendency, presided. A prominent part was taken in the proceedings by Prof. McCoy of Red Bluff, and by Messrs. Rector, Wood, Heath, Noland, Sweeny, and others. Essays were read by Miss Ella Sample and Prof. Merrick. The Metric system was discussed by Messrs. McCoy, Dennis, Wood, and Tatham. Ex-Supt. James Denman was present during the entire session of this Institute, and delivered lectures on Geography, Grammar, School Discipline, etc. His instruction was highly commended, and the Institute passed him a unanimous vote of thanks before adjournment. A like unanimous endorsement of THE PACIFIC SCHOOL AND HOME JOURNAL was passed, as also a warm word of commendation of Supt. Campbell.

SIERRA COUNTY.

Though this county has not figured much in the pages of the JOURNAL, yet it is thoroughly "alive" on the subject of education. The recent Institute was well attended by a body of earnest, enthusiastic teachers, and was in every way a success. The greater part of the sessions was occupied by the instruction and addresses of Prof. Allen, of the Normal School. Essays were read by Messrs. Shafer, E. L. Case, and Fred. A. Fay. An able valedictory was delivered by A. M. Phalin, who has served the cause of education in this county faithfully and acceptably for sixteen years, six of them in the capacity of superintendent. The usual resolutions were passed, one warmly thanking the retiring superintendent.

AMADOR COUNTY.

Prof. Allen conducted the exercises of the Institute in this county, in his usual happy and effective manner. Supt. Norton presided, and the teachers, of whom there was a full attendance, took an active part. There are many very excellent teachers in Amador; notable among them, and one of our earliest subscribers, is the Supt. elect, Mr. Edsinger, of Amador. Messrs. Kerr, Edsinger, Rickey, Miller, Ford, and Hudson took a prominent part in the proceedings of the session.

Educational Intelligence

FROM

STATES AND COUNTIES.

OREGON.

The school at Silverton, taught by Mr. G. A. and Miss Alice Peebles, has an attendance of over one hundred pupils.

Seattle does not pay the school teachers promptly; but it has more saloons than any other town on the coast, of its population.

The State University at Eugene City has 207 pupils.

The Eugene public schools opened in January, with the following teachers: High School, Prof. T. C. Bell; Grammar School, Mrs. J. A. Stowell; Intermediate, Mrs. J. A. Odell; Primary, Miss Maggie Walker. Prof. T. C. Bell is City Superintendent.

STATE OF NEVADA.

A Committee on Education, in the Lyceum, have recommended an appropriation of \$4000 to build a primary school building in Reno.

They have determined to build a new public school-house at Huffaker's, to cost \$1500.

Bishop Whittaker's school for girls is a success. It is a State school that belongs to Nevada, of which the State is justly proud.

A State Teachers' Institute will probably be held in Carson in March.

The public schools at Reno opened in January, with 250 pupils, and the following teachers: Mr. King, Mrs. Cautrill, Miss Emery, Miss Gibbs, Miss McNeely.

The Tuscarora School has an average attendance of thirty-six pupils.

In the North Truckee School—Miss Minnie B. Gibbs, teacher—six pupils led off on the Roll of Honor for December, with 100 per cent. against their names.

On the Roll of Honor in the Verdi School—Miss Mary A. Taylor, teacher—Miss Nettie Wood headed the list with 91 per cent.

The district school in Elko opened in January, with Mr. Jos. Hollister as Principal and Miss Cady and Miss Hunter as assistants.

Nevada has a State University.

Elko has a new brick school-building—one of the best in the State.

Of the \$13,693.56 accruing to the school fund of Storey County from the semi-annual apportionment of the State school money, Virginia district will be entitled to \$8,077.54 and Gold Hill to \$5,616.02.

The teachers of the Gold Hill school at present are as follows: Central New School, Mills Van Wagenen, Principal, salary, \$180; Miss Libbie Salkeld, assistant, \$120; Miss N. A. Everett, 1st Grammar, \$120; Mr. J. E. Bray, 2nd Grammar grade, \$120; Miss Mary McDonnell, 1st Primary, \$110; Miss Lena Smith, 2nd Primary grade, \$90; Miss Lou Davis, 3rd, \$90; Miss Maria Gaston, 4th, \$90; Miss A. S. Harris, assistant in 4th grade, \$90. Outside schools: Divide school, Miss O. L. Taylor, Principal, \$120; Miss Laura Holman, 1st and 2nd Primary, \$90; Miss Carrie Henderson, 3rd Primary, \$90; Lower Gold Hill School, Principal, A. B. C. Davis, \$120; American Flat School, Miss Gertie Flanagan, \$75.

The following circular was issued from the Department of Public Instruction, Carson City, January 12th, 1878.

TO THE SCHOOL SUPERINTENDENTS AND FISCAL OFFICERS OF THE STATE OF NEVADA: You are hereby notified that in accordance with the provisions of the amended school law, I have this day apportioned the sum of \$33,797.17 among the several counties of this State, upon the basis of the school census returns for the year ending August 31st, 1877. SAMUEL P. KELLY,
State Superintendent of Public Instruction.

The number of census children in Nevada, entitled to share in the apportionment of school money, is 9364.

CALIFORNIA.

SAN FRANCISCO COUNTY.

An order was passed by the Board making an hour's absence count one-half day's loss of salary.

A number of important changes have been effected in the Department during the month of January: notable is the "cutting out" of "oral instruction," including physics and physiology, from the course of study.

"Half-day classes" have been established in the Department. That is, the "double-class" teachers have been assigned to other positions, and a different teacher appointed to each section of the double class. The sessions have been lengthened to 4 p. m., thus giving three hours for each division. The salary paid for each "half-day class" is \$50 per month. This remuneration is ample, and ought to secure able teachers. The idea is eminently a good one, as it gives each division of pupils a fresh, bright teacher.

Among the nominations for the Laguna Honda school, made vacant by the resignation of Mrs. Meeker, we see the name of M. C. Brophy. Mr. Brophy is a scholar and thinker. He is a student of the science of education, and an able instructor. He would be an acquisition to the San Francisco corps of teachers, and we trust he will be elected.

The evening schools of San Francisco have never before been so fully attended. Under the efficient management of the Principal, Mr. Joseph O'Connor, they are a grand success, and do a work whose beneficent influence on the future of this city can scarcely be over-estimated. There are now thirty-three classes, with a total enrollment of nearly 1600, and a nightly attendance of over 1000. The Committee on Evening Schools of the Board, take an active interest in the schools, and visit them very frequently, notably the Chairman, J. F. Sullivan.

Among the teachers at the Mission evening school is Silas A. White, Principal of the Valencia Street Grammar School. Mr. White is, without exception, the most popular teacher, with parents and children both, that we have ever seen; and we believe he deserves it.

The Cyclopædia war rages. Which is better, Appleton or Johnson? In our advertising columns, comes a strong blast from one side; the other will doubtless soon reply.

No less than three large school-houses in this city have lately been "burglarized." The thieves, presumably "hoodlums" who had formerly been pupils of the schools, carried away packages of slate pencils, lead pencils, and such portable articles as they could easily dispose of in junk shops. It would not be a bad idea to require the

school janitors to live in or very near the school buildings.

LOS ANGELES COUNTY.

They are to have a new school-house in Anaheim.

The citizens hold a Lyceum at the school-house in Orange, and have a paper entitled "Orange Leaves," select readings, discussions, music, etc.

At the school in Westminster the pupils have to enter the building by means of bridges. What is the matter there?

The new College (as it is called) at Downey City was dedicated on the 24th ult. The Principal is Mr. Monroe.

East Los Angeles is to have a school-house.

The Los Angeles Board of Education is devising means to ornament all the public school-grounds with shade trees. A sensible scheme, worthy of imitation.

SANTA CRUZ COUNTY.

Miss Clara Chittenden, of this county, received a second-grade State certificate at the late examination for teachers.

Miss Mollie Root is resting from her labors as teacher, her place being filled by Miss French, from Ontario, Canada.

Miss Pearl McCann has resigned her position in our public schools to accept a tutorship in Live Oak district, at a higher salary. Miss D'Ancona, of San Francisco, has been appointed to fill the vacancy.

The editor of the Educational Column in the "Courier" urges the observance and enforcement of that section in our school law which says: "Instruction must be given in all grades of schools and in all classes during the entire course in *manners and morals*." The suggestion should be heeded by the teachers in some of our schools. Pass it round. We know schools which need a very strong dose of it.

Mrs. J. O. Wanzer has opened a private school in her residence on Park street. Mrs. Wanzer's ability as a teacher is so well known that she will have no difficulty in securing as many scholars as she may desire.

Miss Julia Martin, of Gilroy, has been elected to the position in the primary department of the public school, made vacant by the resignation of Miss Hammond.

Clarence White and Miss Carrie Pratt will resume charge of the school at Corralitos.

The Watsonville schools have re-opened with the following teachers: 1st grade, J. W. Linscott; 2nd grade, Miss Minnie Cox; 3rd, Miss Barham; 4th, Miss Lizzie Hopkins; 5th, Miss Julia A. Gilman; 6th, Miss Ida McAdams; 7th, Miss Mary Gallagher; 8th, Mrs. Morris; 9th, Mrs. Kidder; Beach School, J. H. McEwen; Colored school, Miss Fannie Gallagher.

Watsonville is well represented in the State University by Miss Charlotte Bockius.

SANTA CLARA COUNTY.

San Jose desires a reform school. It has needed one a long time.

The public schools of San Jose are overstocked.

Purissima has a fine new two-story school-house, built on a commanding site, at a cost of \$4500. Miss Bradley is the teacher, and is well liked.

SAN MATEO COUNTY.

The county tax of this county was reduced one-third this year; and by a peculiar system of distribution, the entire loss will fall on four districts, which misfortune will bring them short of funds.

Menlo Park has a flourishing school.

The San Bruno School opened in January, under the care of Mr. J. H. Byrne, who has been in charge of it two years, with good success.

Miss Moore, of the Menlo Park School, and Mr. Kinsey, of the Redwood City school, have resigned. Mr. K. had taught in this school four years, and Miss M. three years in her school, and were regarded as efficient and successful teachers. The vacancies were filled by the election of Mr. M. J. Hanrahan and Mr. M. C. Brophy. Mr. H. is an experienced teacher from Oregon, and Mr. Brophy from Santa Clara, and well known.

Redwood City School has a library of 800 volumes, and some good philosophical apparatus.

MONTEREY COUNTY.

The public schools of Salinas opened the last Monday in January, with the following corps of teachers: Principal, Philip Prior; Assistants, Miss Annie Wible, Miss Lizzie E. Browne, Miss A. Tyus, Miss L. Nickell, Miss A. Plummer, and Mr. O. F. Willey, the latter gentleman having been elected to fill the vacancy occasioned by the resignation of Miss Betancue.

S. M. Shearer is teaching the Central Avenue school for a month, to fill a vacancy. He will then teach the Sausal School for three or four months.

SAN JOAQUIN COUNTY.

There are over 1200 children in regular attendance in the schools of Stockton. The City Superintendent is Geo. S. Ladd.

About \$7500 have been subscribed toward building a high school at Lodi. A similar project is on foot for Lockeford. It is proposed to establish a high school there, the surrounding districts to assist the enterprise in return for the privilege of sending their children to the school.

MENDOCINO COUNTY.

Supt. Ruddock, of this county, in a recent circular to his Trustees, makes the following good points: "Expend your money judiciously and economically, and as far as possible provide for the comfort of pupils, both as to ground and buildings. Do not let a dollar or two deprive you of a good teacher; and when you get a good one keep him (or her)." He sends us the following interesting notes from his jurisdiction.

"I have just made my apportionment, aggregating \$7200 of County School money: fifty-two districts in the county get \$112.50 each, four \$225 each, and one, Ukiah, \$450. The remainder will be apportioned in March.

"The Ukiah schools opened on the 7th of January, with Mr. Weeks as Principal, Miss Minnie Talmage as first assistant, J. S. Hunter as second assistant, and Mrs. S. W. Haskett as third assistant. Miss Talmage is from Sacramento county, and is a valuable acquisition to the corps of teachers of Mendocino.

"New school facilities are soon to be provided in Ukiah, as the school, at present, is crowded beyond its capacity.

"Miss Alice Chaplin will teach the Indian Creek school, commencing in the spring. Miss Kate Siddons will resume in Mill Creek district, first term in the elegant new building. Miss May Carpenter will dedicate the new schoolhouse in Carroll district early in spring. These three ladies are graduates of the Normal School, and are among our most valuable and efficient teachers.

"At the December examination there were fifteen applicants, only two of whom were successful.

"W. H. Young will teach at Central district, Miss Belle Howard at Sawyers, and E. B. Gambee at Sherwood Valley, after closing his winter school at Mendocino. JOHN C. RUDDOCK."

MODOC COUNTY.

The number of census children in this county is 921; number of school districts, twenty-one; number of teachers, twenty-two. There are five first-grade schools, fourteen second grade, and two third grade. There are three good school-houses—one at Cedarville, one at Ft. Bidwell, and one at Adin. The latter is of brick, built at a cost of \$5000, and will be completed in time to be occupied soon after New Year.

Mr. Geo. W. Welch is Principal of the Adin school, a position which he has held for three years.

Mr. E. P. Grubbs, the Superintendent elect, promises to do much for the interest of our schools; and we hope soon to be on a basis with some of our elder sister counties.

Examination Questions.

The following questions were used in San Francisco, in December, at the regular semi-annual trial examination of the first grades.

ARITHMETIC.

(5 questions—10 credits each.)

1. (a) Find the L. C. M. of 39, 78, 36, 24, 30. (b) Give the rule for the addition of fractions. 2. (a) Express 11-13 decimally, to four decimal places. (b) Reduce 4 miles 16 rods 11 $\frac{1}{4}$ feet 3 inches to inches, and prove by reduction ascending. 3. (a) Find the per cent. of profit in the following transaction: A trader buys five horses at an average price of \$42 per head, three horses at \$75 apiece, and one horse for \$150. He sells the lot at \$100 a head. Give the exact answer, with the fraction, if there be one, reduced to its lowest terms. (b) Find the cost of 17,256 lbs. of hay, at \$20 per ton. 4. If 5 men reap 52.2 acres in 6 days, how many men will reap 835.2 acres in 12 days?

5. (a) Find the commission on the purchase of 12,363 lbs. of wheat, at \$2.10 per cental, at 3 $\frac{1}{2}$ per cent. commission. (b) $(43.5 \times 12.14) + 73.256 + 2.009 = 114.6 = ?$ (c) Interest of \$255, at 9 per cent. for 1 year 3 months and 20 days? (d) $2 \cdot 3 \cdot 11 + 5 \cdot 4 \cdot 9 + 18\frac{1}{4} + 10 \cdot 26 \cdot 27 = ?$ (e) 52 is what per cent of 78?

GRAMMAR.

(5 questions—10 credits each.)

1. (a) Write the plurals of axis, chimney, criterion, memorandum, wharf, journey, chorus, hero, roof, penny. (b) State the difference in the use of the letter s, as applied to the inflection of verbs and nouns. 2. Write a sentence containing—(a) A noun modified by a relative clause. (b) A predicate verb modified by a prepositional phrase. (c) Write a complex sentence containing an adjective clause. (d) Write a complex sentence with its members connected by an adverb of time. (e) What rule should be observed in the position of adverbs in a sentence? 3. (a) Write in tabular form the present, present perfect, and past tenses, indicative mood, of the following

verbs: go, do, lie, (to recline) lay, sit, begin, fall, write, see, feel, using the pronoun *I* as the subject. (b) Compare gay, active, doleful, little, bad. 4. (a) Define—a sentence, the predicate, a preposition, a compound sentence, a phrase. (b) We diverged towards the Wahsatch range. We had not encountered any hostile Indians. We had seen no traces of our absent companions. Combine these three statements into a single sentence with *phrases*. 5. "To be insensible to public opinion, or to the estimation in which we are held by others, indicates anything rather than a good and generous spirit." State—(a) Subject of *indicates*; (b) Modifier of *insensible*; (c) Modifier of *estimation*; (d) Case of *spirit*; (e) Modifier of *are held*.

GEOGRAPHY.

(4 questions—10 credits each.)

No credits on misspelled names.

1. (a) Upon what circumstances does the climate of any locality depend? (b) What current largely influences the climate of California? 2. (a) Where is the Gulf Stream first divided after leaving the Straits of Florida? (b) What is its average velocity? (c) How may it be traced throughout its course? (d) What is its effect on the western coast of Europe? (e) What is the Sargasso Sea. 3. (a) What is a river basin? (b) What is the source of the Mississippi River? (c) Why is it for the best that the courses of rivers are not in a direct line to the sea? (d) Mention a lake lying over 12,000 feet above the sea-level. (e) How large is Lake Superior? 4. (a) Why is the section called Atacama, lying partly in Peru and partly in Bolivia, a desert region? (b) What name is given to lines drawn on a map through places of equal mean temperature? (e) How many degrees from the North Pole is the Tropic of Capricorn? (d) Upon what kind of food do the inhabitants of tropical regions subsist? (e) In what zones do men reach the highest development?

SPELLING.

(40 words—1 credit each.)

NOTE.—The proper use of capitals strictly required.

Forfeit, alien, perjury, balance, remedy, indicative, imperative, infinitive, multiplicand, Michigan, inseparable, avarice, delicacy, plausible, aqueous, igneous, receive, vigilance, conscience, paralyzed, San Joaquin, Alameda, Berkeley, parricide, attachment, fervent, prejudice, Sacramento, intrepid, ascending, universal, transcendent, fervid, germinate, elevate, Cincinnati, elementary, intelligence, century, colossal.

The following questions were used, recently, by the Ohio State Board of Examiners. They are so like those used in California as to be specially valuable to teachers preparing for examination.

ORTHOGRAPHY.

1. What is the rule for doubling the final consonant? What are silent letters? 2. How are letters written to represent different sounds? What is an aspirate? 3. Name the vowel sounds in the English language. Why are they so important? 4. Write five words in which *y* has a vowel sound, and five in which it has the sound of a consonant. 5. What is a derivative word? When is a final *e* omitted in forming derivative words? 6. Give examples of the different methods of using the hyphen in compound words. 7. Give a general rule for spelling words in which *ei* or *ie* is used. 8. What is the rule for spelling words whose final

syllable has the sound of *z* preceded by that of long *i*? 9. What is the practical value of a knowledge of syllabication? When a single consonant occurs between vowels not under accent, to which is it joined? 10. Give five examples of words spelled alike, but differently pronounced. Give five examples of words pronounced alike, but differently spelled.

HISTORY OF UNITED STATES.

1. What settlements had been established in North America prior to 1621? What were the provisions of the first navigation act? 2. What forms of colonial government had Virginia from 1607 to 1776? What was the purport of the Virginia Resolution of 1765? 3. What causes led to the French and Indian War? What territorial changes made by treaty of 1763? 4. What States ceded the North-Western Territory to the Government? What States have been formed from the Territory of Mississippi? 5. Name the States that were admitted into the Union during Washington's administration. 6. In what year did the United States purchase the Province of Louisiana? What was the extent of this Territory? 7. What Territory of Mexico came into the possession of the United States in 1845? In 1848? In 1853? 8. When did the "slavery question" first claim the attention of Congress? What propositions were contained in the Compromise Measures of 1850? 9. When did the Free Soil party arise? What was the object of the Kansas-Nebraska Bill? Give an account of the Lecompton Constitution. 10. What measures were taken by Congress to defray the expenses of the Government during the Civil War?

UNITED STATES CONSTITUTION.

1. What was the origin of the Constitution of the United States? 2. How many articles does the Constitution contain? To what does each article relate? 3. Suppose the United States should purchase Cuba: how, under the provisions of the Constitution, could that island secure a representation in Congress? 4. How are vacancies in a States representation filled? Describe the manner in which a bill becomes a law. 5. In how many instances has the choice of a President devolved upon the House of Representatives? Under what circumstances can a special presidential election be held?

BOTANY.

1. In what respects do plants differ from animals? What is meant by the flora of a country? What is an herbarium? 2. Of what importance is the study of botany? Name and define the different departments of the science. 3. How does the elementary constitution of plants differ from their organic constitution? 4. Name the four stages of growth in the life of a plant. How are trees distinguished as to foliage? 5. Name and define the parts of a flower. Give examples of typical and anomalous flowers.

PHYSIOLOGY.

1. Which are the most important of the inorganic ingredients of the food? Why are these substances necessary to bodily growth? 2. Describe the structure and functions of the principal organs concerned in process of digestion. 3. What is absorption? By what means is the process carried on? 4. What functions are performed by the saliva, gastric juice, pancreatic juice, and bile? 5. Describe the structure and functions of the principal organs concerned in circulation of the blood.

The following were used in Toronto, Canada, for intermediate certificates.

ARITHMETIC.

1. Reduce 8 oz. 6 dwt. 3 9-13 grs. to the fraction of a lb. troy. 2. Divide to 6 decimal places, nine million eight hundred and forty thousand and eighteen ro-millionths, by one hundred and fifty-nine thousand nine hundred and eighty-two ro-millionths. 3. What will it cost to purchase bricks for a wall 150 feet long, 6 feet high, and 18 inches thick, bricks being worth \$6.25 per thousand, and each brick being (including mortar) 9 inches long, 4 1/2 inches wide, and 3 inches thick? 4. "Toronto, December 1st, 1776.—For value received I promise to pay A. B. \$1500 one year after date, with interest at eight per cent. per annum." This note is indorsed as follows: January 23, 1877, \$400; August 20th, 1877, \$500. Find the amount required to pay the note when due (no days of grace). 5. Explain the terms, Stocks, Shares, Dividends. When is stock at par? At a premium? At a discount? A man having \$25,000 Dominion Bank Stock paying eight per cent. per annum, sells out at 120, and invests in Bank of Commerce stock, which is at 125, and pays eight and one-half per cent. Find the alteration in his income. 6. How much sugar, at 8 cents, 9 cents, 10 cents, 13 cents, and 14 cents per pound, must be taken to form a mixture of 400 lbs., worth 12 cents per pound? 7. A coin whose weight is 2000-6323 of an ounce contains 37 parts in 40 of gold, and the rest in silver; gold being worth \$17 per ounce, and silver worth \$1.10 per ounce, find the value of the coin. 8. If at Toronto, sterling exchange is quoted at 10 1/2, and at Liverpool, exchange on Paris is 26 francs 85 centimes per £1, find what a Toronto merchant, remitting through Liverpool, must pay to discharge a debt of 12,000 francs, brokerage included in the above quotations. 9. If the diameter of a twenty-cent piece be to that of a twenty-five-cent piece as 10 to 11, find the ratio of their thickness. 10. Two trains respectively 99 yds. and 132 yds. long, and moving on parallel rails, pass each other in 6 1/2 seconds when running in opposite directions; when moving in the same direction the one passes the other in 47 1/2 seconds. Find their rates per hour.

ANSWERS TO QUESTIONS IN
JANUARY NUMBER.

4. Is the quantity of matter now composing the earth the same as when the earth was created? If so, how shall we account for our fossil forests, or coal mines?

The earth may have gained a little in size during the last million or so of years by keeping all it got in the way of meteorites with which it has been pelted since man began to observe. At least, there is no proof that it ever threw stones itself. I suppose the fossil forests and coal beds can be accounted for as we account for the Palace Hotel. They are made of material that once formed another part of the earth.

8. In decomposing water, by means of metallic potassium, which burns, the oxygen or the hydrogen?

When a piece of potassium is thrown on water it rapidly combines with the oxygen of the water, producing—if I may use such a term—heat enough to set fire to the freed hydrogen, which

in burning combines with the oxygen of the air. The heat vaporizes some of the potassium, thus coloring the flame. Sodium, on cool water, does not unite so rapidly with the oxygen of the water; does not get so hot, and the hydrogen escapes unburned.

10. When is the specific gravity of milk greatest, when fresh or skimmed?

Since cream rises to the top of milk, it must have less specific gravity than the other constituents of that fluid; therefore, skimmed milk has greater specific gravity than fresh milk.

11. Matter is said to be anything of which we are cognizant by our senses. We can feel heat, or hear sounds: is either of these matter?

We are cognizant of a sound just as we are cognizant of wind. Neither is matter. Certain movements of the air—possibly of other substances too—cause a sensation which was called sound before it was known that air-waves tapping on the tympanum caused the sensation. Wind, striking our faces, produces a sensation which was not named, because as soon as man could make language, he knew the cause of the sensation, and named the cause. So heat, too, is a "mode of motion," but the name was first given to the sensation. Man soon discovered that heat expanded, melted, and vaporized matter; so it came to be called a force.

15. Will a ball thrown horizontally reach the earth as soon as if dropped?

A ball thrown horizontally will not reach the earth as soon as if dropped; but, for any velocity ever yet given to a rifle-bullet, the difference is scarcely a measureable quantity. You can show yourself how it is by drawing an arc to represent a line on the surface of the earth in the plane of the ball's path; draw a tangent to this arc to represent a horizontal direction; above this draw a line parallel to the tangent to represent the path the ball would take if the earth did not attract it. If the distance between the horizontal lines represents sixteen feet, the ball would reach the ground in about one second if dropped. Suppose the velocity of the ball sufficient to carry it forward two thousand feet in one second: make a mark on the upper horizontal line to represent that distance from the starting point. Then, according to the law of compound motion, a point on the lower line perpendicularly below the mark on the upper line, would be reached by the ball in one second. Now this point is above the surface of the earth about one inch. Now the ball would fall that inch in about 1-380 of a second.

17. Why has a piece of petrified wood greater weight than before petrifaction?

A piece of petrified wood is heavier than the wood which gave it form and texture, just as a bullet is heavier than the air it displaced when it entered the mould. Petrified wood is not wood, but stone. Wood does not turn to stone; but particle by particle, as it decays, it gives way to intruding particles of silex, carbonate of lime, or some other soluble mineral.

18. Two ships are 100 yards apart, and moving with cannon-ball speed; will a cannon-ball, shot from the hinder ship overtake the former?

If two ships are moving with cannon-ball speed, one after the other, a cannon-ball fired from the hinder ship will strike the one ahead about as soon after it starts as it would if the ships were at anchor the same distance apart. To begin with, the ball has the speed of the ship: when it is fired, its speed is double that of the ship.

21. If salt melts ice, why, in making ice-cream, do we put salt in the ice?

When ice melts, heat is absorbed. Anything that will hasten the melting without giving out heat to surrounding matter will cause more heat to be absorbed in a given time, and thus make surrounding matter cooler; hence, salt is used with ice to make a freezing mixture, because it causes rapid liquefaction.—[Volney Rattan.]

NOTES FOR EVERY-DAY USE.

LUMBER QUESTION.

A, a mill owner, owes B, a teamster, \$5. B has on his wagon, at the mill, 1500 ft. of lumber, which is worth at that place \$12 per M. B charges A for hauling lumber to his yard \$8 per M. How much of the lumber on B's wagon must he throw off at the mill for himself, and how much must he deliver at A's yard, in order that the account between them may be settled?

SOLUTION.—Suppose that B hauls the whole load to A's yard, then it is worth \$30; for the lumber is worth \$12 at the mill, and adding \$8 freight to this we find it is worth \$20 per M. at A's yard. But there would be due B for freight @ \$8 per M. the sum of \$12. To this we add the amount due him at first, viz: \$5. Whole amount due B \$17. Since the whole load is worth \$30, B gets 17-30 of it, or 850 ft., and A gets 13-30, or 650 ft.

PROOF.—650 ft. @ \$8 per M. freight would cost for hauling \$5.20; adding \$5 to this amount we get \$10.20: 850 ft. at \$12 per M. will settle the account. But as this is a practical question,

we should remember that the teamster would be likely to make extra charges for hauling less than a half-load.

[We have received correct solutions of the Lumber Problem from J. C. Rector, of Vina, Tehama County, and from B. Yarnale, of Oakville, Napa County. The above answer, being first in point of time, has precedence.]

The scholarly solution, by Hugo del Monte, of one of the mathematical problems in the January number, will appear in our next issue. We have not, as yet, the necessary figures to represent it properly.

BOOK NOTICES.

GRADED LESSONS IN ENGLISH, and HIGHER LESSONS IN ENGLISH. The former being an Elementary English Grammar, consisting of One Hundred Practical Lessons, carefully graded and adapted to the class-room. The latter, a Work on English Grammar and Composition, in which the Science of the Language is made tributary to the Art of Expression. A course of practical lessons carefully graded, and adapted to every-day use in the school-room. Both by Alonzo Reed, A. M., Instructor in English Grammar, in the Brooklyn Collegiate and Polytechnic Institute; and Brainerd Kellogg, A. M., Professor of the English Language and Literature in the Brooklyn Collegiate and Polytechnic Institute. New York: Clark & Maynard, publishers.

We print in full the titles of these two little books, for there we find, succinctly and accurately stated, their scope and purpose.

We have one word of advice to give those teachers who believe the object of teaching English grammar is to teach the correct and ready use of the English tongue. Get these books. Examine them. If they are not found just what the experience and daily observation of every earnest teacher have sought, we are decidedly mistaken. We hope to see the day when the technical grammar of the English language will be consigned to those who pore over the Sanscrit, or those who delight in antiquities. Language will then be studied for use, not for its mysteries, or to "discipline the mind." We are rapidly nearing this era. Results are now demanded, not theories. Such books as these will hasten the reign of common sense.

We shall, at an early day, give an extended review of their contents. In the meantime, as

California has really no text-book on Grammar, let every teacher examine this series. We will mention, by the way, that the cost is as remarkably low, as the merit of the books are high: Graded Lessons for Introduction, cost 30 cents. Higher Lessons, 50 cents.

COMPLETE ARITHMETIC, Theoretical and Practical. By William G. Peck, Ph. D., LL.D., Professor of Mathematics and Astronomy in Columbia College, and of Mechanics in the School of Mines. New York, Chicago, and New Orleans: A. S. Barnes & Company; San Francisco: I. N. Choynski.

This book shows how unfair it would be to judge a publisher by any one work bearing his imprint. Thus the only work familiar to California teachers, which bears the name of the publishers of this arithmetic, is Monteith's Geographies. How deservedly unpopular this work is here, it is not necessary to say. The majority of our best teachers would gladly welcome any change. This arithmetic, however, is a book of another sort. Mechanically and typographically it is well gotten up. We like its concise definitions; the arrangement of subjects; the great number and variety of practical problems, and the omission of answers from the body of the work. On the whole we can heartily commend the work.

THE PRIMARY NORMAL SPELLER, or First Lessons in the Art of Writing Words. Designed to teach Spelling by an improved method. By A. G. Beecher. New York: Clark & Maynard, Publishers.

The absurdity of teaching children to spell by forcing them to memorize long columns of hard words, is sufficiently appreciated to need no comment. The old system, in the practice of all good teachers, at least, is usually discarded. But, as yet, no general and well devised system has taken its place. The book before us aims to teach spelling as we really spell. The art of writing words is the end sought. The best way to attain that end is to write them. On this principle, throughout, is the work constructed. There are many lessons, and more than one-half in script. The book is very attractive looking, and finely illustrated. In addition, it is so cheap, that not even the political economists in the California Legislature, who want the State to publish its own text-books, can figure out the same work for less money.

FIRST LESSONS IN LATIN. By Elisha Jones, M. A. Chicago: S. C. Griggs & Co., 1877.

This is an exercise book for elementary Latin composition and translation from the Latin. It

is gradual and systematically arranged; the exercises are well prepared and carefully selected. Every lesson is accompanied by copious references to six Latin grammars, which may be excellent for the adult student, but rather useless for the school-boy, who but seldom refers to one grammar, and would find it the height of cruelty to be compelled to refer to six. Has not Mr. E. Jones found it so in his practice?

THE MAN WHO WAS NOT A COLONEL. By a High Private. Boston: Loring, Publisher; San Francisco: I. N. Choynski. Price, 50 cts.

We suppose this little book was written for town people when they go to the country, and for country people when they go to the town. It says as much on the cover; also, it says on the cover, Loring, Publisher. He may have written it also, for it has "no name," though not included in that famous series. But it has a hero and a heroine, as one very soon finds out; and the way they manage to become acquainted with each other, would charm not only civilized city and country folk, but a heathen in the desert of Africa, if he could read. And this is enough to say. We do not wish to describe it. Read it, if you desire to be amused and delighted for an hour.

We have received the following books, which will be noticed in our next number: "New Practical Algebra," by James B. Thomson, LL.D. New York: Clark & Maynard; and a novel, "There's Nothing In It," by Jennie Bidwell; San Francisco: Henry Keller & Co.

THE FEBRUARY MONTHLIES.

Harper's for February is, as usual, excellent. A new serial story, "The Return of the Native," is begun in this number, and promises to be of absorbing interest—the one novel of the year. The illustrated articles of note are "Along the Jersey Shore," "The Fieschi Conspiracy," and "J. M. W. Turner." Departments are good,

Appleton's Journal has a few fine illustrated articles. "The American at Work," by Rideing, and an interesting account of "Stanley's Voyage Down the Congo." "Cherry Ripe" is acceptably concluded, and "By Celia's Arbor" moves along but too slowly for the interest it excites. An interesting interview with Joseph Jefferson, on the subject, "Rip Van Winkle," with some excellent poetry are the main points of the rest of the number.

The "Mid-winter Number" of *Scribner's Monthly* is a magnificent issue. Both for beauty of illustration and for excellence of contents, it is unexcelled on either side the Atlantic. A frontispiece-portrait of Abraham Lincoln with a poem on the martyr President, by R. H. Stod-

dard, are alone worth twice the price of the number. Three beautifully illustrated articles, two of which will appeal strongly to California taste, are "Moose-hunting," by C. C. Ward; "A California Mining Camp," by Mary Hallock Foote; and "The Humming-Bird of the California Waterfalls," by our own John Muir. "Roxy" is continued, and the departments are—as Dr. Holland always makes them—excellent.

The February number of *Lippincott's* is decidedly brilliant. The illustrated papers are, "A Month in Sicily," "Glimpses of Sweden," and "With the Russians in Bulgaria," the latter by Edward King. The serial, "For Percival," is continued. "Hunting in France" is a unique and interesting article. A reminiscence of the First Iron-clad Fight pleased us exceedingly.

The Popular Science Monthly opens with the first installment of the promised paper on "Evolution of the Ceremonial Government," by Herbert Spencer. It is not too much to say that this paper alone is worth the price of a

year's subscription to the *Monthly*. Prof. Joseph Le Conte has an illustrated article on "Geysers and How they are Explained." Prof. Tyndall's article on "Spontaneous Generation" is graphic and conclusive. "The Hygienic Influence of Plants," by Dr. Max Von Pettinkofer, will amply repay the reader. These are but a small portion of the subjects treated of in this number of the ablest of modern scientific magazine.

St. Nicholas can't be better, and never grows worse. Children, young and old, who do not read it, miss one of the comforts of life. The February number is like all before.

The editorial announced in our Table of Contents on the High School Question was unavoidably omitted this month. Next month it will appear.

BOYS' AND GIRLS' DEPARTMENT.

Edited by Mrs. L. A. K. Clappe.

THREE DAYS OF GRACE.

BY CHARLES H. SHINN.

[Concluded.]

[This play was written for the pupils of Washington College, and used at an entertainment. It has never before been published.]

CHARACTERS.

STELLA RANDALL—Thoughtful, noble; about seventeen.

ALICE WAINWRIGHT—Flyaway, frank, independent; about sixteen.

MURIEL FAY—Graceful, delicate; about seven.

MR. IRONS—Muriel's grandfather; old-fashioned.

MR. T. HARRISON FORDYCE—Teacher, pedantic.

LEM. BRYANT—Lives with Mr. Irons.

EFF. WALTERS—Wide-awake youth; Alice's cousin.

FIRST SMALL BOY, THIRD SMALL BOY,

SECOND SMALL BOY, POLICEMAN.

IRONS.—That will do.

(*Lem goes out, followed by Fordyce. Muriel's eyes unclose.*)

MURIEL.—Listen, grandpa, please. I love Star, and Star could not have taken my pretty money. Now don't tell any one, and we will all find out.

IRONS.—Bonnie bird, who'd steal frae thee?

STELLA. (*With deep feeling.*)—To think that this should come upon me! O mother! my poor mother!

MURIEL. (*Clasping Irons' knees.*)—You must wait, or I shall never be happy any more.

Alice.—Give us time, Mr. Irons, and we will find evidence enough to satisfy you; but if you have a human heart do not blight a girl's name until you are certain.

Surely she whom your granddaughter so loves cannot be an adventuress.

Irons.—I canna tell. Outside an officer of justice waits ; yet your passion moves me.

Alice.—O sir ! look there, at my queenly Stella ! I will kneel to you, will weep on your gracious hands, only be merciful, only give us time.

Irons.—I give you three days. See that you use it well. Then, Law.

Stella. (Rising)—Very well ; I am ready for all that comes. (*Staggers, clutches the table.*) At present I am not able to hear more.

(*Exit. Muriel attempts to follow.*)

Irons.—Whither, child ? Gae hame wi' me.

Muriel. (Clinging to his hand.)—Grandpa, I love both of you ; why can't you not think so bad a thing ?

Irons.—Still thee, child ; the warld's full o' wickedness, and there's mony a wolf in sheep's clothing.

Muriel.—Not Stella, though.

(*They pass out.*)

Alice. (Pacing the room.)—This, then, is life. To live, and be pure ; to have friends—and, without a word of warning, to have a sharpened lie sent home by a secret foe. There is a snake somewhere, and Alice Wainwright must scotch him. Oft have I been giddy-headed, but now that my Stella is smitten, there is but one cry—Follow ! follow ! follow ! I heard that dreadful Fordyce mutter : “I saw,” and then, “It serves her right.” I'll private-key every desk of his. Now to work. Be strong, careful, vigilant. (*Exit.*)

End of Act 1st.

Act II.

SCENE.—A hall or ante-room of a school-house.

(*Enter Lem and Fordyce, talking.*)

Lem.—That's rather rough on her ladyship, isn't it, Mr. Fordyce ? I'm a poor boy, but I couldn't steal from a little girl.

Fordyce.—The girl has wounded me sorely, yet I feel sorry for her fall, if she be indeed guilty. Yet that pocket-knife looks familiar, and one like it was in my possession lately.

Lem. (Slyly)—Of course you are inno-

cent, Mr. Fordyce, but some one mentioned having seen you near Mr. Irons' house after ten o'clock Thursday night.

Fordyce. (Flushed.)—I was only taking a walk.

Lem. (Satirically.)—All right. Of course those girls are in partnership. Didn't you hear the leader admit that the knife was her's ?

Fordyce.—That knife again ! I wish I could see it.

Lem.—I'll show it, if you'll do me a favor. Only drop this note on the playground to-morrow. (*Draws the knife partly out.*) Don't you understand. This is a little love affair of mine—quite a side issue.

(*Enter Jeff. (Right.) Catches Lem's hand and the knife ; struggle.*)

Jeff.—O you whelp ! I could macadamize you in five minutes. Those girls steal ! Mr. Fordyce, I despise you. (*To Lem.*) Wriggle, will you ! Take that. (*Twists his hand.*) I will have that knife. (*Wrenches it out.*) Just as I supposed. A dozen boys will swear that you had this Thursday, Mr. Lem, Money-thief ! And you're another.

(*Exit, whistling “The Campbells are coming.”*)

Lem.—Mr. Fordyce, you see their plan ; they must be guilty, or they would not use such violent means to escape.

Fordyce.—Yes ; it certainly does look bad. I half wish they were convicted.

Lem.—Do you ? Of course, for we are in the same boat.

Fordyce.—I desire to retain my position, and, tho' innocent, such a rumor would hurt me.

Lem.—Certainly, but there is one way left. Will you take it ?

Fordyce.—If I can.

Lem.—Only put this note on the school-room floor, and all will be well.

Fordyce.—Let me see it.

Lem.—I—do n't—know. Well, yes.

Fordyce. (Opening.)—What a delicate ladies' hand ! Lem, you are a genius of calligraphy.

Lem. (Aside.)—Ca-lig—what ? don't he belt a fellow with stunners though !

Fordyce. (Reads)—

HOME, Friday.

DEAR ALICE : This evening I will call, and we will spend a part of our windfall. I want to find a knife like the one I lost. See if they suspect. Burn this.

STELLA.

Fordyce.—So this is not a love-letter, but

a link of accusation. T. Harrison Fordyce is not fallen so low.

Lem.—Then I'll implicate you.

Fordyce.—Shut the door, and see that no one is around.

Lem. (Aside.)—I've got him.

Fordyce.—Lem, I begin to see why you are filled with anxiety. You took that money.

Lem.—Of course not. How can you think so?

Fordyce.—Knife, letter, anxiety. (*Smiles.*)

Lem. (Aside.)—Ain't he a sharp one; wants his share. (*To Fordyce.*) Well, sir, yes; I know where it is, and half is yours.

Fordyce. (Changing tone completely.)—Then you are in trouble, my boy. One thing only can save you from prison. See that the money is restored, and I will intercede for you. Refuse, and I crush you. Fordyce will defend innocence.

Lem.—You sneak into my affairs, and then ruin me.

Fordyce.—You have no alternative. If you do this I will say nothing of the evidence I possess.

Lem. (Aside.)—I wish I could kill you. (*To Fordyce.*) Thank you, sir.

Fordyce.—That's right. Do your duty, boy. (*Gives him his hand.*) Now be careful about that money.

(*Enter Alice in time to hear the last words.*
Exit Lem.)

Fordyce.—Sit down, Miss Alice.

Alice.—I can't, and won't. Too busy unravelling. See here, Mr. Fordyce, that paper of yours was given to us, but we did not open it.

Fordyce—Thank you.

Alice.—Mr. Fordyce, please tell me what you know about that knife of Stella's.

Fordyce.—I am sorry, Miss Alice, but I cannot at present.

Alice.—O! I see! I pity you, Prof. Fordyce! (*Exit.*)

Fordyce.—So she thinks I am in league with the thief? Of course, after my meanness. What a conceited puppy I have been. Yellow necktie, there you go! (*Pulls off tie, throws it on the floor.*) Hair a la femina, take that! (*Ruffles it passionately.*) Henceforth I will be simple and modest. How these bright girls measure us.

(*Exit, curtain falls.*)

ACT III.

SCENE.—*Sitting-room in Stella's house.*

Stella. (Sitting.)—The afternoon wears dizzily away and yet no word has come, or any help. I am lost in a great night, while bells clang in the darkness. My one comfort is that I am not guilty. O that they would come, and end this cruel suspense.

(*Enter Jeff.*)

Jeff.—All is coming out beautifully. We have evidence enough to clear you, and to convict Fordyce and Lem.

(*Enter Alice.*)

Alice.—Now, dear, I am glad all is over. O darling Star!

(*Stamping outside.*)

Jeff.—There are my three witnesses.

(*Rushes out; returns with three embarrassed small boys.*)

Alice.—O, you sinners, were you never in a parlor before?

Lem. (Outside.)—I won't go in there. I'll die first.

Gruff Voice.—Come along, ye wharf rat

(*Enter Irons, Lem, and an officer.*)

Alice.—Yes! that's one of them. Glory!

Jeff. (To small boy.)—Dick, you stay where you are, or I'll pummel you.

Irons.—Weel, weel, the wee bit bairnie is right, after all. The lad I kept sae lang deceived me; but justice prevails.

Alice.—Mr. Irons, we want to understand this.

Irons.—Ye shall, child. (*To officer.*) How was it?

Officer.—Sur, I found the boy digging up the money from under a pile of boards. He confessed, but said another person put him up to it. But they all say that, sur.

Irons.—That is sufficient. (*To Stella.*) Leddy, I have done ye a wrang, sorely. Forgive an old man if he did sae misdoubt your gentle word, and the promise of your fair face, and the prayers of fairy Muriel.

(*Stella tries to speak, but chokes. Alice cries. Jeff tries to whistle, but fails.*)

Alice. (After a pause.)—Yet there is one more.

(*Enter Fordyce. Alice, Jeff, and Lem all speak at once.*)

Alice.—Arrest that man, Mr. Officer.

Jeff.—We have evidence; quick.

Lem.—He put me up to it.

(*Officer looks at Irons.*)

Irons.—Question him. Show your evi-

dence. If it holds, arrest him. The day of mercy is past.

Jeff.—This knife—

First Boy.—Yes; I seed it afore. Lem, he had it.

Second Boy.—And I too. Lem stole it, cos he kep it hid.

Third Boy.—Me too. An' Lem's awful mean.

(*All laugh. Exit three boys.*)

Jeff.—To go on. I came in and heard these two, hoping Stella would be proved guilty.

Alice.—I, also, heard Mr. Fordyce tell Lem to "be careful about that money."

Irons.—That is close evidence. What have you to say?

Fordyce.—Simply this: Hearing that Lem was arrested I came here to face the music. I was tempted yesterday, through wounded pride, to help him to escape, but a better spirit prevailed, and I ordered Lem to restore the money, in doing which he was caught. Girls, I beg your pardon for the first thought I had. Jeff, from what you heard, I doubtless appeared guilty. Mr. Irons, if you will wait, I can send for a witness to prove an alibi for that evening.

Irons.—Whom will you send?

Jeff.—Mr. Fordyce, I begin to respect you. I will go.

Fordyce. (*Scribbles in note book.*)—Here, take this to Tommy Williams at the Exchange.

Officer.—Hold on, I can furnish evidence.

Alice, Jeff, Irons.—Good.

Lem. (*Struggling.*)—You are all against me.

Officer.—This gentleman lives on my beat, and I often see him. Thursday night he was repeatin' poetry along by your front gate, and after that he took a ride with Tom Williams, and then went home.

Fordyce.—Here, too, is the note Lem wished me to drop in the school-room. The paper is peculiar.

Irons.—Indeed it is, and from my own desk. This ends it. Mr. Fordyce, we acquit you.

(*Enter Muriel.*)

Muriel.—O Star! I'm so glad.

Stella.—O dear, kind friends, it is all sunshine now. (*To Irons.*) You, sir, did your duty, and I only respect you. Do not let any regret stay in your mind.

Irons.—One thing more. Muriel is old

enough to study more. Will you not accept the position of governess—train my pet, and soften the asperities of an old man?

Muriel.—O goody, goody.

Stella.—If you think, sir, that I can suit you, I will try.

Irons.—Very well, when can you come?

Stella.—O, sir, I will give you "Three Days of Grace." (*All laugh.*) TABLEAU. Fordyce, Alice, Irons, Stella, Muriel, Jeff, Officer, Lem. *Curtain falls.*

The Good of the Boy.

Oh, what is the good of a wide-awake boy,
Who whoops and halloes
As he ties on his shoes,
And who dances a jig
While he's combing his wig
And washing his face with a very poor grace;
Who whips on his jacket
And makes all the racket
He possibly can?
Now tell me, I pray, what's the good of this boy?
"Well, a wide-awake boy makes a wide-awake man."

Oh, what is the good of a rollicking boy,
Who gets into "snaps,"
And all sorts of haps;
Who nothing so loathes
As a suit of new clothes?
Because the first day they hinder his play;
For the second—no matter,
He'll have them a-tatter,
Before set of sun;
Have you something to say for the good of this boy?
"Yes; for enterprise bold he will surely count one."

Oh, what is the good of a careless boy,
Who won't wipe his feet,
And can't learn to be neat,
Who treads on the cat,
And sits down on his hat,
Yet he's spunky and plucky, this happy-go-lucky
And cares not a rattle
But sides in each battle—
With him that is down?

Now, what is the good of this bold, reckless boy?
"In a popular vote, dear, he'll carry the town."

So then there's some good in all sorts of a boy;
The jolly and sad,
The sorry and bad,
The best and the worst,
The last and the first,
You'll have something to say in his favor alway?
"Why, yes, since you leave it,
I surely believe it
Is best to judge so;
For, though you may question the good of a boy,
How should folks fare without him I'd just like
to know?" —*Mary E. C. Wyeth.*

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